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JUL 31 1936

the OIL AND GAS JOURNAL

...ULY 30
1936

...MI-ANNUAL
NUMBER

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STA-VOL-ENE

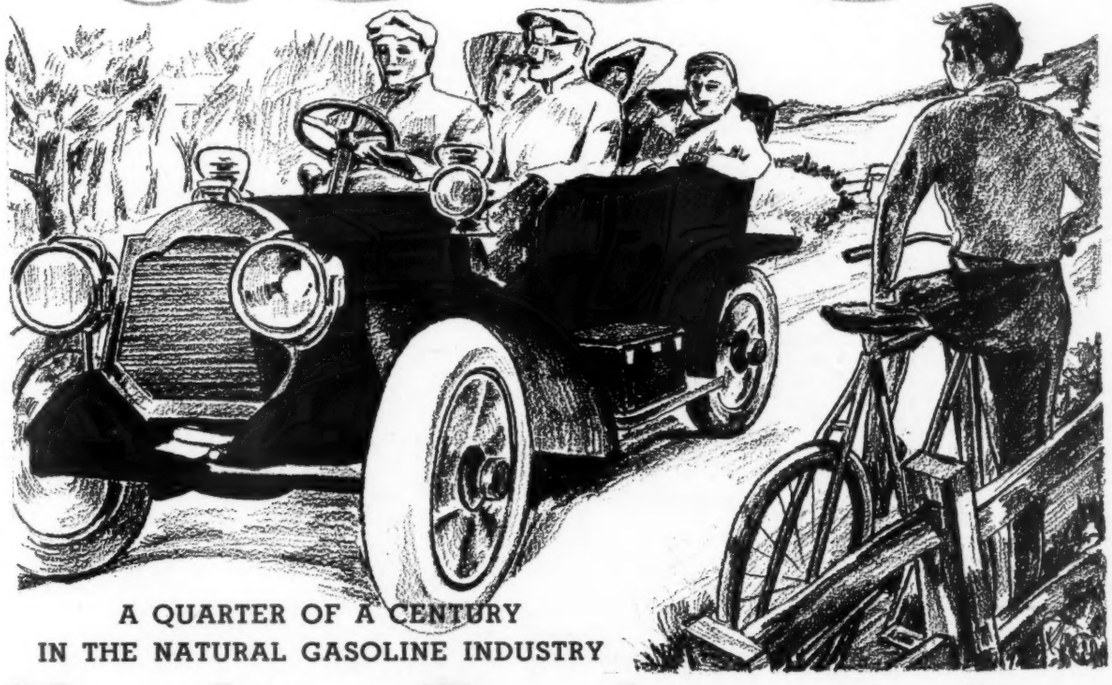
STABILITY ◆ VOLATILITY ◆ ENERGY

IT'S A "NATURAL"

PRODUCT OF EXPERIENCE THAT BEGAN

1908

WITH THE *Linen Duster* DAYS OF THE AUTOMOBILE



A QUARTER OF A CENTURY
IN THE NATURAL GASOLINE INDUSTRY

Hanlon-Buchanan, Inc

PIONEER NATURAL GASOLINE MANUFACTURER

EXPORT TERMINALS:
Goodhope, La.
Houston, Tex.

TULSA, OKLAHOMA
NATIONAL BANK OF TULSA BUILDING
PHONE 4-1101 or L.D. 398 WIRE—OR WRITE P.O. BOX 1539
Cable Address . . . STAVOLENE, Tulsa, U. S. A.

FOREIGN REPRESENTATIVE:
Borks, Williams & Co., Ltd.
4 Lloyd's Ave.,
London, England

KENTUCKY HAD NATION'S FIRST GUSHER

Kentucky's first oil well, the Beatty Well, is accredited as the first flowing oil well in America. It was drilled in 1819 on the south fork of the Cumberland River by David Beatty who was boring for salt water. A hole 9 feet square was dug 10 feet to rock and timbered. Thence a 3" hole was punched by manual labor to a depth of 170 feet and salt water. To the disgust of all, oil began flowing up with the salt water, polluting it,—so the well was abandoned.

Oil filled the well and overflowed, covering the stream for 35 miles, and then caught fire, causing a backwoodsman to originate the expressive phrase "Hell with the lid off."

*One UNION LINE Is Still In Use — After Drilling 7 Wells

Years ago UNION set out with a definite determination to produce "The Ultimate Low-Cost Wire Rope." These words were not adopted as our slogan, however, until hundreds of records of actual field performance had convinced us that UNION Lines *do* last longer. Here is a record of a UNION Line which has done most of the drilling on 7 wells:

This ⅞" 6x19 line was purchased in 1932, in Ohio. There it was used for drilling the last 600 feet in a 4400-foot well, and for drilling another 4400-foot well from top to bottom. The line was then shipped to Kentucky where it was used on a spudder to drill Craven No. 1 (1200 ft.), Kerrick No. 3 (1400 ft.), Ashton No. 2 (1170 ft.), the last 400 feet in a 1600-foot well, and Ashton No. 3 (1600 ft.). Now, after drilling over 10,000 feet in 7 wells, the line is drilling still another well, as shown in the photograph.

This picture, showing 3 generations of Camerons, was taken at H. B. Cameron & Son's Location No. 4, McClean County, Kentucky. The people, left to right, are: H. B. Cameron; Mrs. Walter J. Cameron; Felix Collins, member of crew; Walter J. Cameron, son of H. B.; M. L. Foreman, member of crew; F. A. Donaldson, Union Wire Rope Corp.; F. J. Zogg, Jarecki Mfg. Co., Owensboro, Ky. The young man is James Cameron, son of Mr. and Mrs. Walter J. Cameron.

UNION WIRE ROPE CORPORATION

Executive and Sales Offices: 601 Beacon Life Bldg., Tulsa, Okla.
Factory and General Office: Kansas City Mo. Branch: Portland, Ore. Warehouse: Monahans, Texas

In Mexico: E. O. CHAPA, P. O. Box 604, Tampico, Tamps, Mexico. Stocks at Tampico

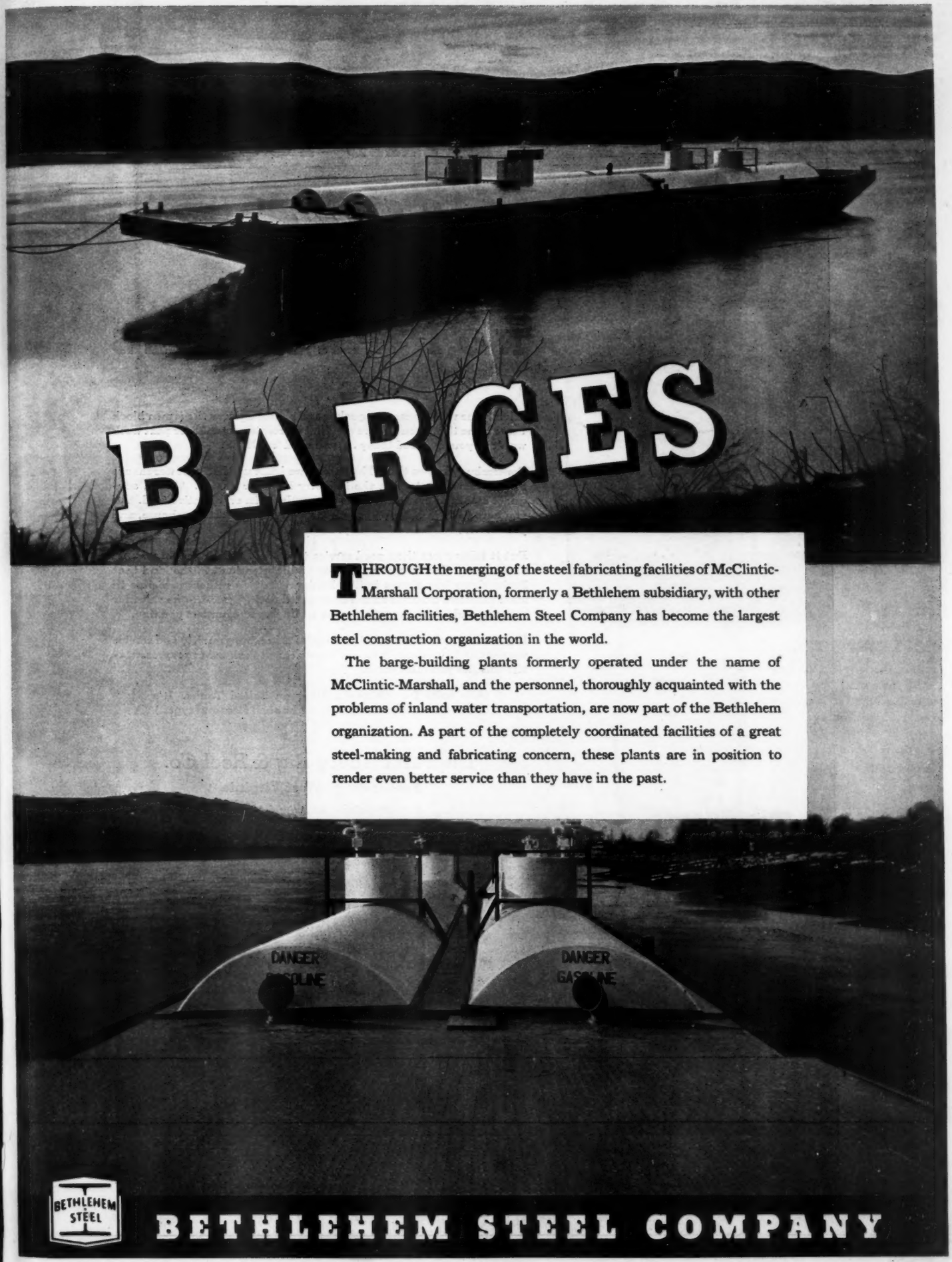
JARECKI MFG. CO.
Distributors: Midcontinent, New Mexico and Eastern Oil Fields

MARION MACHINE FOUNDRY & SUPPLY CO., Rocky Mountain Fields, except New Mexico

Export Agents: (except Mexico) LUCEY EXPORT CORP., Woolworth Bldg., New York; Broad St. House, London

UNION WIRE LINES

The "ULTIMATE LOW COST WIRE ROPE"



THROUGH the merging of the steel fabricating facilities of McClintic-Marshall Corporation, formerly a Bethlehem subsidiary, with other Bethlehem facilities, Bethlehem Steel Company has become the largest steel construction organization in the world.

The barge-building plants formerly operated under the name of McClintic-Marshall, and the personnel, thoroughly acquainted with the problems of inland water transportation, are now part of the Bethlehem organization. As part of the completely coordinated facilities of a great steel-making and fabricating concern, these plants are in position to render even better service than they have in the past.

BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY

AT A TIME LIKE THIS YOU NEED

TANKS-

NOT PROMISES

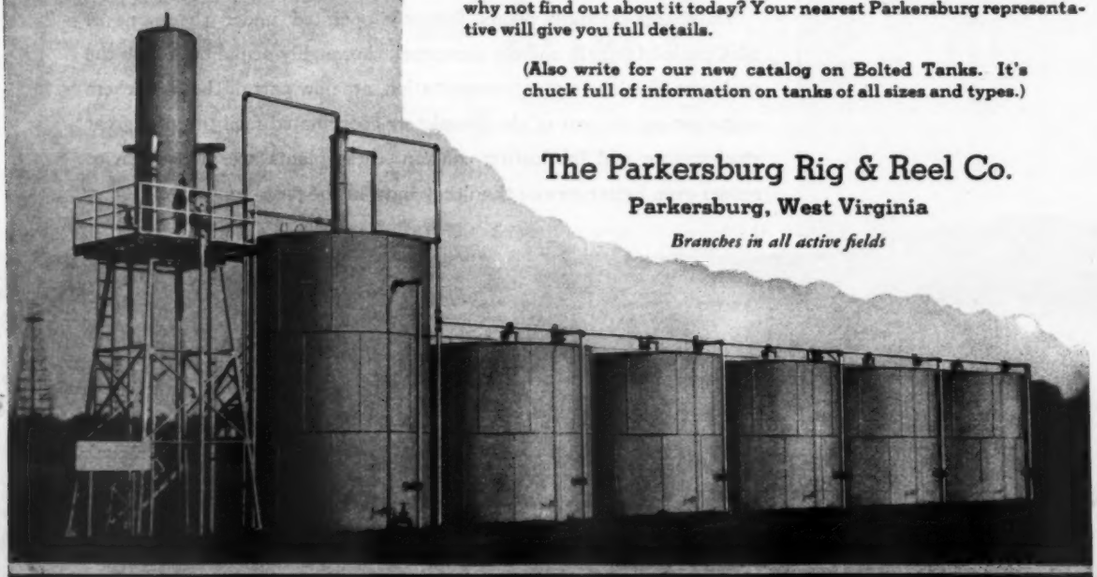
When your well comes in a gusher and shoots up over the crown block there's one thing you're sure of—that a promise of tanks for next week won't do you any good today . . . you need 'em NOW.

Parkersburg knows this. That's why we built up the finest warehouse and service organization the industry has ever known. Today, adequate stocks of every size tank are available in every active field. All you have to do is pick up your phone, call our nearest warehouse, and your service starts immediately.

But it takes more than good service to make and hold customers. It also takes tanks of superior quality and fabrication . . . the kind that Parkersburg has always built. Evidence in this respect is visible in such exclusive features as the corrugated deck, three-in-one valve for vacuum and pressure control, and an improved cleanout opening.

If you are not already acquainted with Parkersburg quality and service why not find out about it today? Your nearest Parkersburg representative will give you full details.

(Also write for our new catalog on Bolted Tanks. It's chuck full of information on tanks of all sizes and types.)



The Parkersburg Rig & Reel Co.

Parkersburg, West Virginia

Branches in all active fields

PARKERSBURG

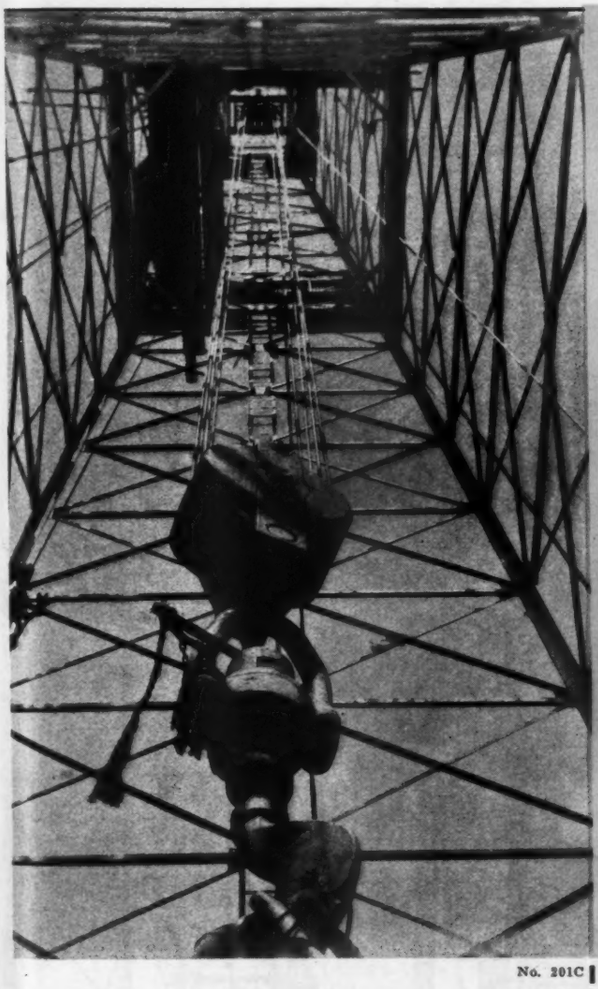
The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Oklahoma, under the Act of March 3, 1879.

Extraordinary fatigue resistance...that's why

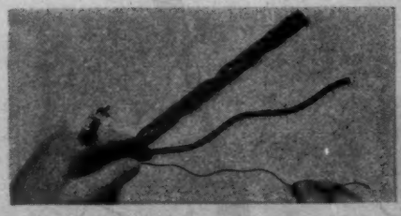
MONARCH WHYTE STRAND

PREformed Rotary Lines

give maximum service

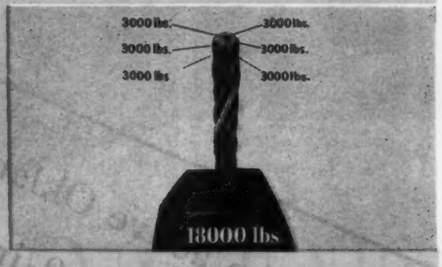


TOUGH WIRE All wire used in Monarch Whyte Strand Preformed Rotary Lines is specially processed in the Macwhyte factory. It is made under strict supervision—given extreme fatigue resistance to withstand the tough requirements of rotary drilling.



INTERNAL FRICTION REDUCED Every wire . . . every strand in Monarch Preformed Rotary Lines is pre-shaped to the *exact shape* it takes in the finished line. No force is required to hold wires in place. Internal friction minimized—assuring superior resistance to fatigue.

EACH STRAND BALANCED TO CARRY LOAD Macwhyte's special Preforming holds each wire in Monarch Preformed Rotary Lines under uniform tension. This factor assures a perfect balance so each strand carries its share of the load. Another reason why this line has extraordinary fatigue resistance!



MACWHYTE

PREformed WIRE LINES

No. 201C

Macwhyte also manufactures specially designed Preformed Swabbing Lines, Casing Lines, Tow Lines, Tubing Lines, Winch Ropes, Sucker Rod Lines, Fall Lines.

• **Also makers of non-preformed lines for other drilling operations**

• Distributors throughout the oil fields. Warehouse at Texas & Pacific Terminal Building, Fort Worth

Mail Coupon Today

MACWHYTE COMPANY, Dept. OG-7, Kenosha, Wisconsin
Please send me folder, "The WHY in MacWHYte PREformed Wire Rope".

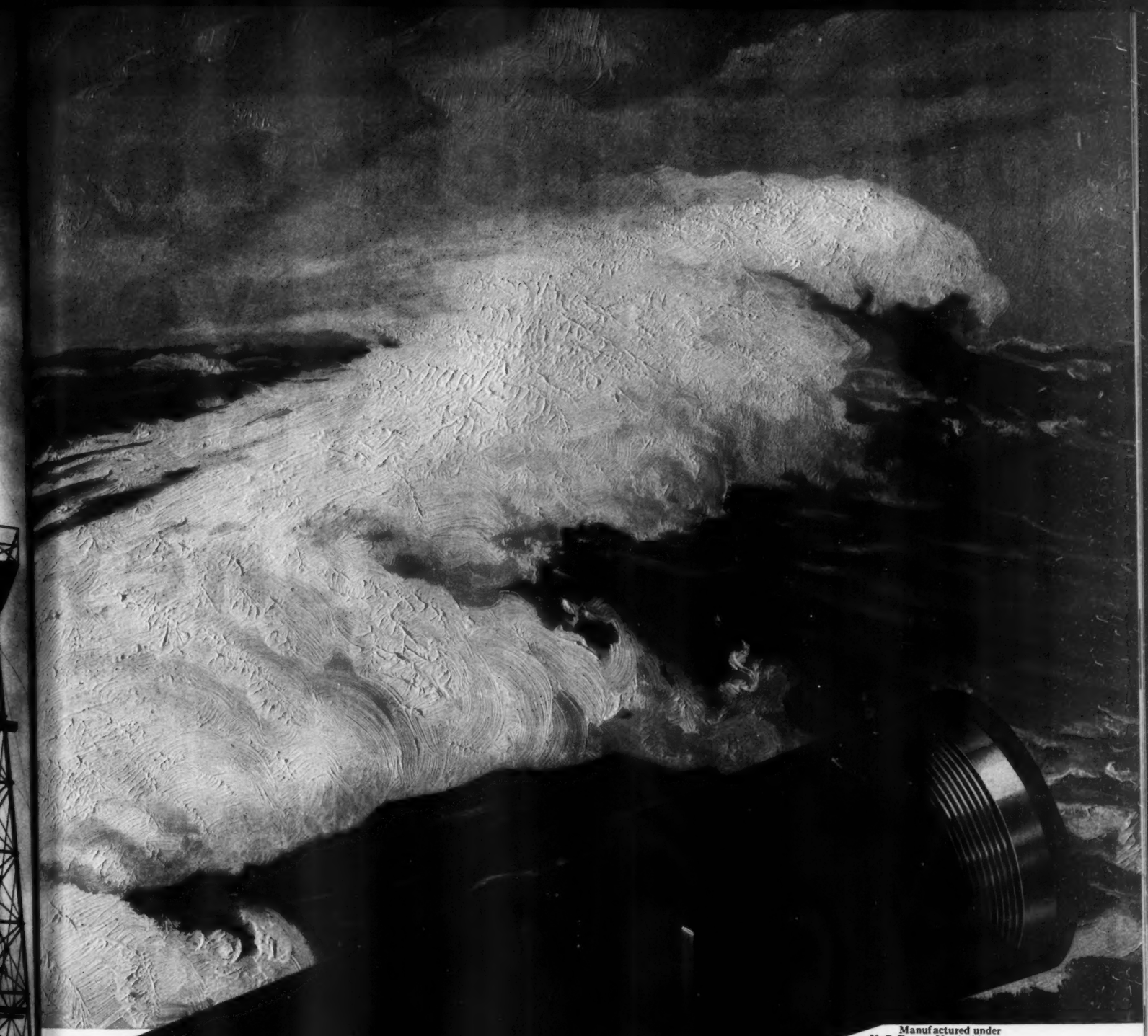
NAME_____

ADDRESS_____

CITY_____ STATE_____

The Wave of Acceptance *Rolls On!*

★Also in the active Oklahoma City oil field 6,458 feet of 9-inch, 38-pound HIGH-YIELD CASING were run in Guthrie No. 1—illustrated at the right.



Manufactured under
U. S. Patent No. 1,993,842

© A. O. Smith Corp., 1936

HIGH-YIELD CASING

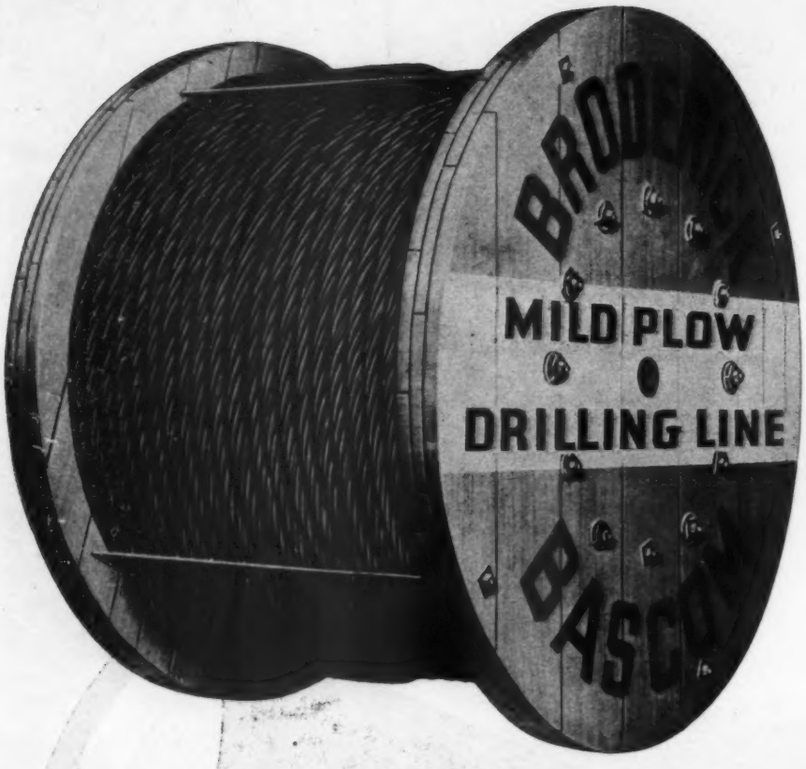
GREATER COLLAPSE RESISTANCE • HIGHER PULL-OUT STRENGTH

MORE FOR YOUR MONEY — HIGH YIELD CASING — **LOWER-COST WELLS**

A. O. SMITH CORPORATION

MILWAUKEE, WISCONSIN — *BRANCH OFFICES:* NEW YORK, TULSA, HOUSTON, LOS ANGELES

Our Experience Saves You Money



Away back when most drilling lines were manila, Broderick & Bascom pioneered in the manufacture and sale of high quality wire drilling lines.

The Broderick & Bascom Mild Plow Steel Drilling Lines you get today embody all the knowledge of drilling conditions, and how best to meet them, that have been gathered through all these years.

They are live lines with the elasticity necessary to stand the gruelling shock of cable tool drilling. They stand abrasion, too—and save you money by giving unusually good service.

Profit by our long experience. Put on a B & B Mild Plow Steel Line and watch it pile up savings for you.

Broderick & Bascom Rope Co.

St. Louis

Factories: St. Louis and Seattle

The Continental Supply Co.

Mid-Continent Distributors

Adequate stocks in all active fields

Multi-Flame Lindewelding

On this 8-in. pipe line for crude oil service metallurgically sound welds are assured by Multi-Flame Lindewelding.

makes Pipe Line Joints *leakproof forever*

THE Multi-Flame Lindeweld embodies these four inherent features which promote high-efficiency joints:

Strength. Lindewelds consistently develop the full strength of line pipe—65,000 lb. to 75,000 lb. per sq. in. Even on base material having a tensile strength, as high as 110,000 lb. per sq. in. the Lindeweld is as strong as the parent metal.

Ductility. The multi-flame preheats the base metal before and post-heats the weld after welding, thus making the Lindeweld unusually ductile.

Corrosion Resistance. The ability of oxy-acetylene welds to resist rust and pitting so often revealed during the reconditioning of old lines is fully developed in the Multi-Flame Lindeweld.

Density. The weld deposit from Oxweld No. 24 Lindeweld Process Welding Rod is homogeneous, dense, and defect-free.

This new technique of welding thus assures the satisfactory performance of a pipe line. At the same time it doubles or triples the daily production of sound welded joints and saves 15 to 40 per cent in oxygen, acetylene and welding rod consumed.

Linde Service Operators because of long experience in the pipe line field can help you take full advantage of this economical construction method. Linde Offices will gladly supply complete information and arrange a showing of the new motion picture on Multi-Flame Lindewelding for your organization. The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation, New York and principal cities.

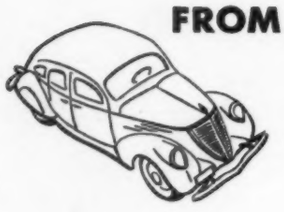
Everything for Oxy-Acetylene Welding and Cutting

LINDE OXYGEN • PRESTO-LITE ACETYLENE • OXWELD APPARATUS AND SUPPLIES FROM UCC LINDE UNION CARBIDE

High Quality

AUTOMOTIVE AND AVIATION LUBRICATING OILS . . .

FROM ANY CRUDE . . . AT *Low Cost*



For the *profitable* production of high quality lubricating oils Lummus suggests the combination of—

COUBROUGH VACUUM DISTILLATION
FURFURAL SOLVENT EXTRACTION
CONTACT FILTRATION
BENZOL ACETONE DEWAXING

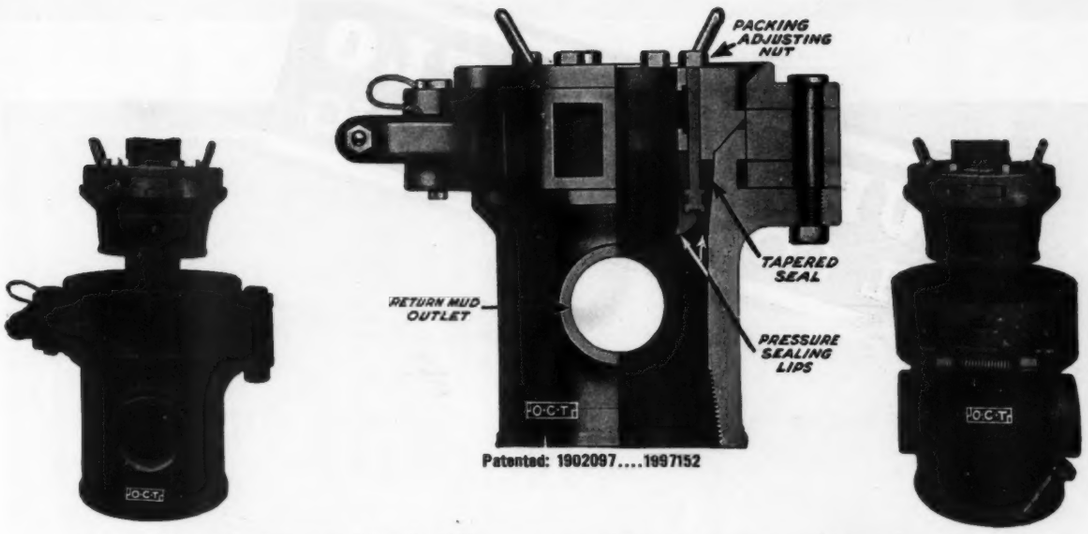
Regardless of the quality of the crude, these combined processes are capable of producing finished oils with minimum pour tests, high viscosity index, low carbon forming tendencies and high resistance to oxidation.

If you are interested in knowing the results that can be secured by the combination of these processes write for data.

THE LUMMUS COMPANY, 50 CHURCH STREET, NEW YORK, N. Y. • BUSH HOUSE, ALDWYCH, LONDON, W. C. 2

LUMMUS

PETROLEUM REFINING PLANTS



O-C-T Type "D" Blowout Preventer Equipped With NEW STRIPPER RUBBER Permits

WORKING PIPE UP AND DOWN

Any Distance While Combating "Kicking" Wells!

The new style O-C-T Stripper Rubbers, which permit pulling collars or tool joints through. . .against pressure, are now available and are standard equipment in our type "D" Blowout Preventer.

This means that users of this preventer can now work drill pipe (with preventer packing unit latched around it) up or down any required distance, instead of the length of only one joint. . .because these improved rubbers allow the tool joints to readily pass through. The same thing is true, of course, with pipe collars in the case of handling casing or tubing. Furthermore, the job of rotating drill pipe through the locked packing unit, to further prevent sticking while killing a well, is also made easier and safer by the new stripper rubber design.

The O-C-T type "D" Blowout Preventer allows the Operator to drill in and run casing and tubing with even more safety than before. The same size preventer handles casing, drill pipe and tubing, by simply swaging from larger to smaller size pipe and changing stripper rubbers and reducing bushings. This preventer also affords many advanced combinations with other O-C-T equipment to give the user greater safety in well completion.

Learn more about this outstanding blowout preventer improvement. Write now for detailed information.

GIVES LONG, ECONOMICAL SERVICE

Branded with the A. P. I. Symbol and made to specifications that considerably exceed the A. P. I. minimum requirements.

★ The superior qualities of Super Excelo always show up in deep well operations. It has the extraordinary strength, minimum stretch and necessary resilience to withstand hard usage, maintain efficiency and resist the sudden shocks of oil field service. Its pulley-gripping ability prevents slippage and gets the most work out of your power.

From long experience Republic engineers know exactly what qualities must be built into the finished belt to give the lowest operating costs. Republic's standards are rigidly maintained. Each run of belting is given exhaustive tests to make sure that you get the same high quality in every Super Excelo Belt you buy.

Our distributors carry ample stocks in a complete range of widths and plies. You can depend upon them for quick deliveries.

MID-CONTINENT DISTRIBUTORS
Frick-Reid Supply Corporation, Tulsa, Okla.
The Bovaird Supply Company, Tulsa, Okla.

PACIFIC COAST DISTRIBUTORS
W. C. Hendrie & Company, Inc., Los Angeles, Calif.
Pacific Coast Rubber Co., San Francisco, Calif.

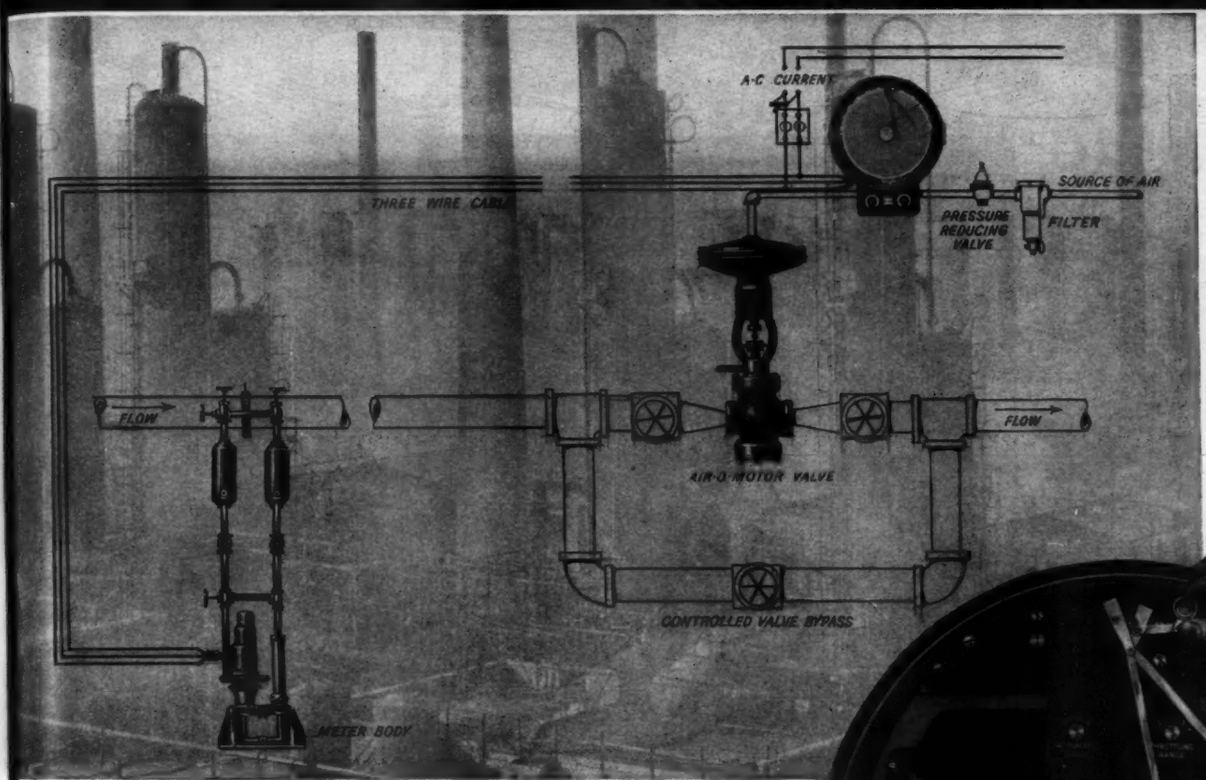
THE REPUBLIC RUBBER CO.

YOUNGSTOWN, OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service.

Air-O-Line Solves the Problem

OF REMOTE RECORDING AND CONTROL OF FLOW

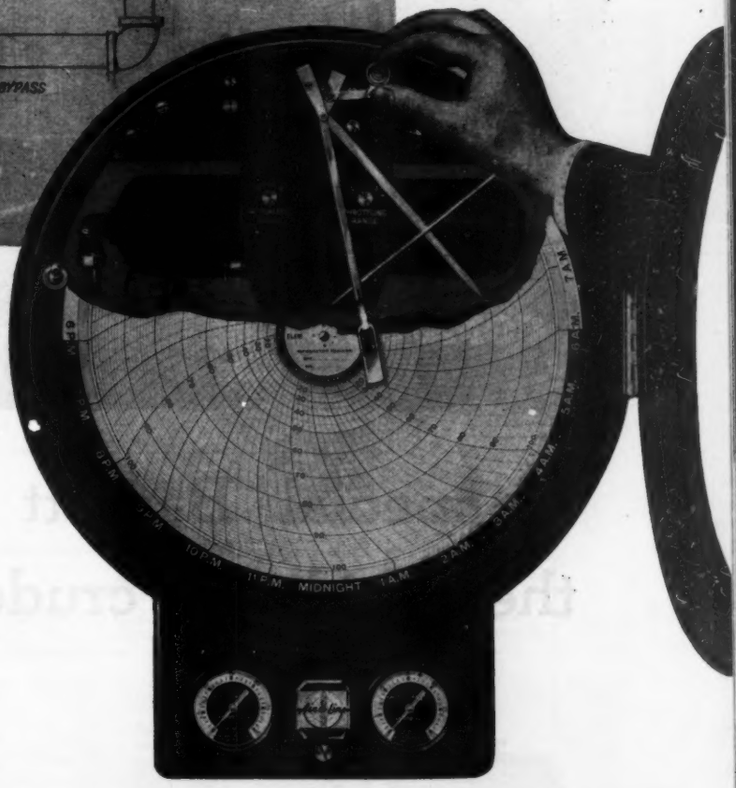


"Tunes In" to PROCESS CONTROL as easily as dialing a radio.

A simple screw-driver adjustment of the graduated "Automatic Reset and Throttling Range Dials" gives you exact control of temperatures, pressures, flows and liquid levels.

There is no guesswork or dismantling of the instrument to obtain the desired control results. You can see how adjustments for different operating conditions can be noted and duplicated at any time.

Once adjusted, Air-o-Line is fully automatic.



Combines—

REMOTE FLOW RECORDING with AIR OPERATED CONTROL

In process flow control, where it is desirable to locate at a considerable distance, the recording controller from the point of measurement,—Brown Air-o-Line Flow Controllers operating on the "electric inductance bridge principle", fulfill every requirement for remote recording and positive control of flow in refinery processes.

The Brown Air-o-Line Flow Controller is the only electric flow meter that offers the desirable combination of electric recording with air operated control and remote control setting by means of a calibrated control index.

The air control mechanism of Brown Air-o-Line is mounted inside of the recorder case. A turn of the calibrated control index makes it possible to set the desired flow control at the recording controller, which is mounted on the centralized instrument control board.

Only Brown Air-o-Line flow-controllers offer this outstanding advantage—which saves time in putting the controller in operation and insures better coordination of flow with the other variables to maintain balanced operation.

Air-o-Line flow controller is suitable for working pressures up to 2500 lbs. per square inch—equipped with the well-known Brown interchangeable range tube features—Air-o-Line flow and liquid level controllers are easily adapted to meet any operating condition.

The graduated "throttling range" and "automatic reset" dials make it possible to "tune in" to process control as easily as dialing a radio. All that is necessary is to set the control index—"tune in" throttling range and automatic reset; once adjusted, Air-o-Line becomes fully automatic. Learn more about Brown Air-o-Line flow controllers. Write for information. The Brown Instrument Co., *a division of Minneapolis-Honeywell Regulator Co.*, 4488 Wayne Avenue, Philadelphia, Pa. Branches in all principal cities. Canadian Factory—117 Peter St., Toronto, Canada. European Address: N. V. N. Minneapolis-Honeywell Co., Wydesteeg 4, Amsterdam-C, Holland.

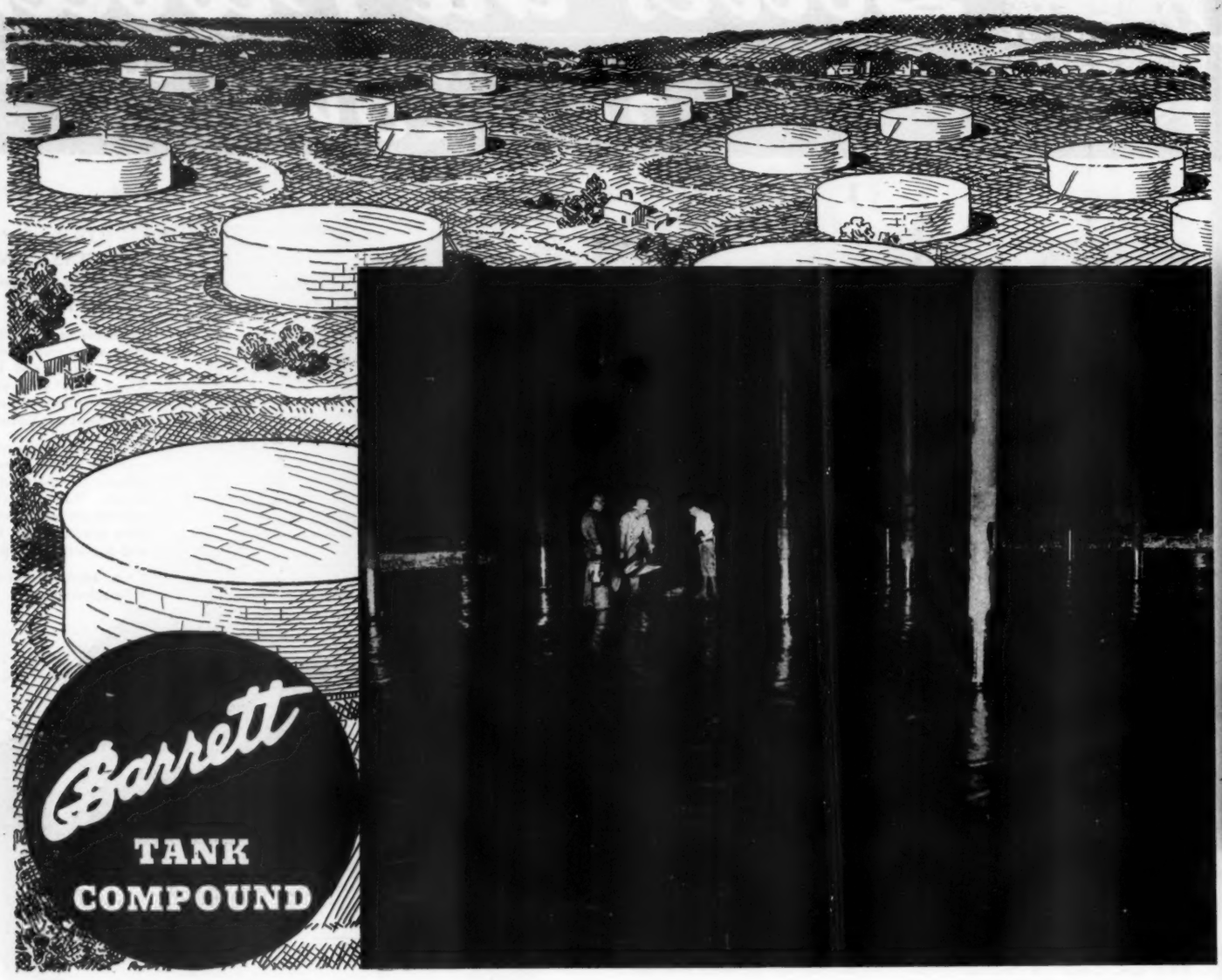
CALIBRATED CONTROL INDEX

Eliminates guesswork and frequent steps by setting the control index at the instrument.

Knob for setting control index is furnished inside case under lock to prevent tampering by unauthorized persons, or it can be furnished external so control index may be set without opening the instrument door. This applies whether case is mounted flush on panel or front-of-board.

BROWN AIR OPERATED CONTROLLERS

OUTSTANDING PERFORMANCE WITH SIMPLICITY



A special Barrett product for protecting the inside of crude oil storage tanks . . .

A 55,000 gallon crude oil storage tank protected with Barrett Tank Compound.

FIELD SERVICE: Carefully trained Barrett field men will gladly work with you, combining their special knowledge and experience with your familiarity with conditions along the right of way.

Barrett Tank Compound is the result of 82 years of experience in the development of protective products. It is scientifically processed coal-tar pitch made especially to protect the interiors of crude oil storage tanks against corrosion. More resistant to water absorption than any other type of product available for the same purpose, it is also dielectric—immune to electrochemical action resulting from varying conditions of the crude oil in storage. It has definitely proved its efficiency where extremely corrosive crude oil has been stored.

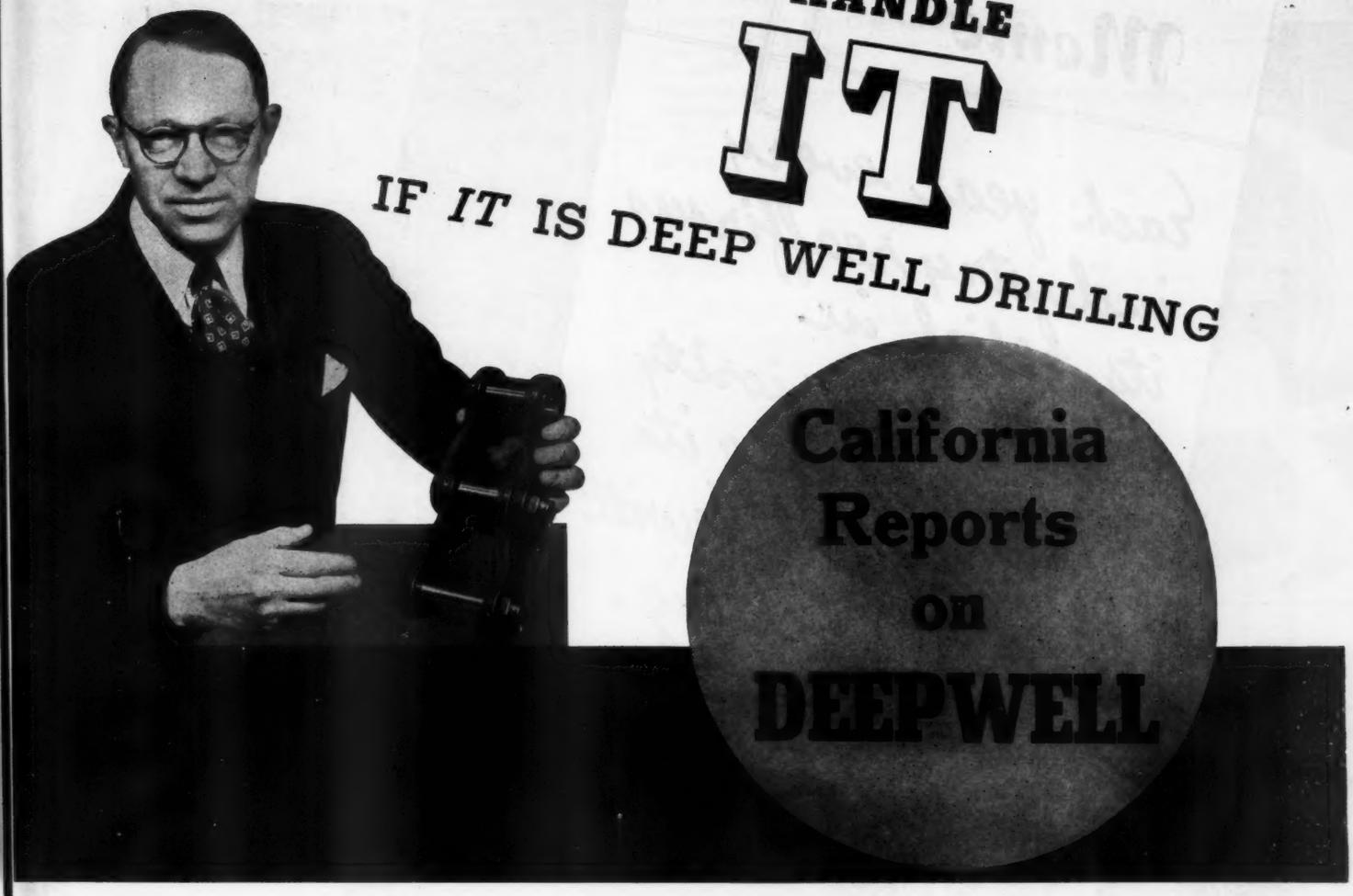
Phone, wire or write for complete information.

THE BARRETT COMPANY

40 Rector Street New York, N. Y.

HOW TO HANDLE IT

IF *IT* IS DEEP WELL DRILLING



● A California Chain Distributor reports:

"Have been checking from time to time on the test that has been in progress for some months. The general conclusion is that it is the most satisfactory run that the testing company, one of the largest out here, has had on *ANY CHAIN* so far."

Fine finish, high strength, and the new Rex method of lubricating the pins make Rex Deepwell the lowest-cost chain per foot of hole for deep, high-speed, hard drilling . . . Insist on Deepwell for your high-speed, deep well rigs.

CHAIN BELT COMPANY
1619 West Bruce St., Milwaukee, Wis.

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Frick-Reid Supply Corporation
Lucey Products Corporation — Murray-Brooks Hardware Company, Ltd.
Norvell-Wilder Supply Company — Rex Supply Company — Coastal Supply Company
Industrial Supply Co., Inc. — Dunigan Tool and Supply Company

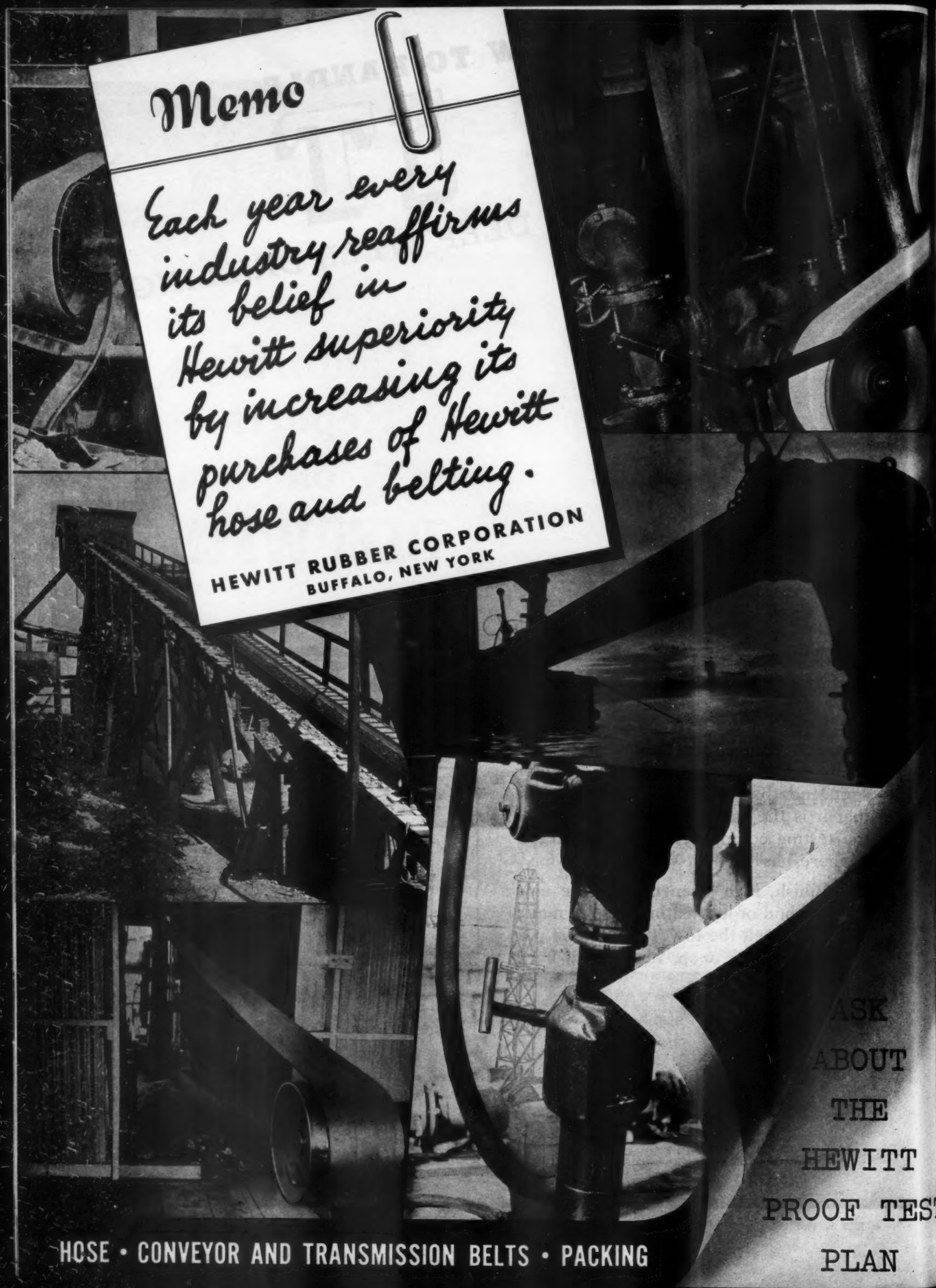
CALIFORNIA DISTRIBUTORS
The Republic Supply Co. of California

EXPORT
Chain Belt Company, Chrysler Building, New York
Lucey Export Corporation, Woolworth Building, New York
William E. Knight, 2-3 Norfolk St., Strand, London, W. C. 2, England

CHAIN BELT COMPANY
OF MILWAUKEE

REX *Deepwell Chabelco*

REX DEEPWELL DW-3—DW-4 • REX CHABELCO 1033—1244


Memo
Each year every industry reaffirms its belief in Hewitt superiority by increasing its purchases of Hewitt hose and belting.
HEWITT RUBBER CORPORATION
BUFFALO, NEW YORK
ASK ABOUT THE HEWITT PROOF TEST PLAN
HOSE • CONVEYOR AND TRANSMISSION BELTS • PACKING

MAIL THIS COUPON for free copy of book on applying oil-field lubricants

CONTINENTAL OIL COMPANY,
Dept. 12, Ponca City, Okla.

Please send me the new edition of your free booklet on applying oil-field lubricants.

NAME _____

ADDRESS _____

CITY _____ STATE _____

Send now for your free copy of this instructive booklet. It gives you the recommendations of Continental lubricating engineers on selection and application of correct lubricants for power units, pumps, rotary equipment, light plants and cable equipment.

At the 71 points listed below we stock a complete line of Conoco Oil-Field Lubricants for every job in the field. These high-quality lubricants have been tested and found satisfactory by operators in every important field.

CONOCO

CONOCO OIL FIELD LUBRICANTS

CALIFORNIA
Los Angeles

COLORADO
Craig
Denver
Ft. Collins
Ft. Morgan
Pueblo

KANSAS
Arkansas City
Chanute
Eldorado
Herington
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Independence

KENTUCKY
Owensboro

LOUISIANA
Lake Charles

MONTANA
Billings
Cut Bank
Great Falls
Lewistown
Shelby
Winnett

NEW MEXICO
Artesia
Farmington
Gallup
Hobbs

OKLAHOMA
Ada
Altus
Ardmore
Bartlesville
Chickasha
Duncan
Edmond
Enid
Guthrie
Muskogee
Oklahoma City
Okmulgee
Ponca City
Seminole
Tulsa

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Amarillo
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Marshall
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Mexia
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Mineral Wells
Pampa
San Antonio
Tyler
Wichita Falls

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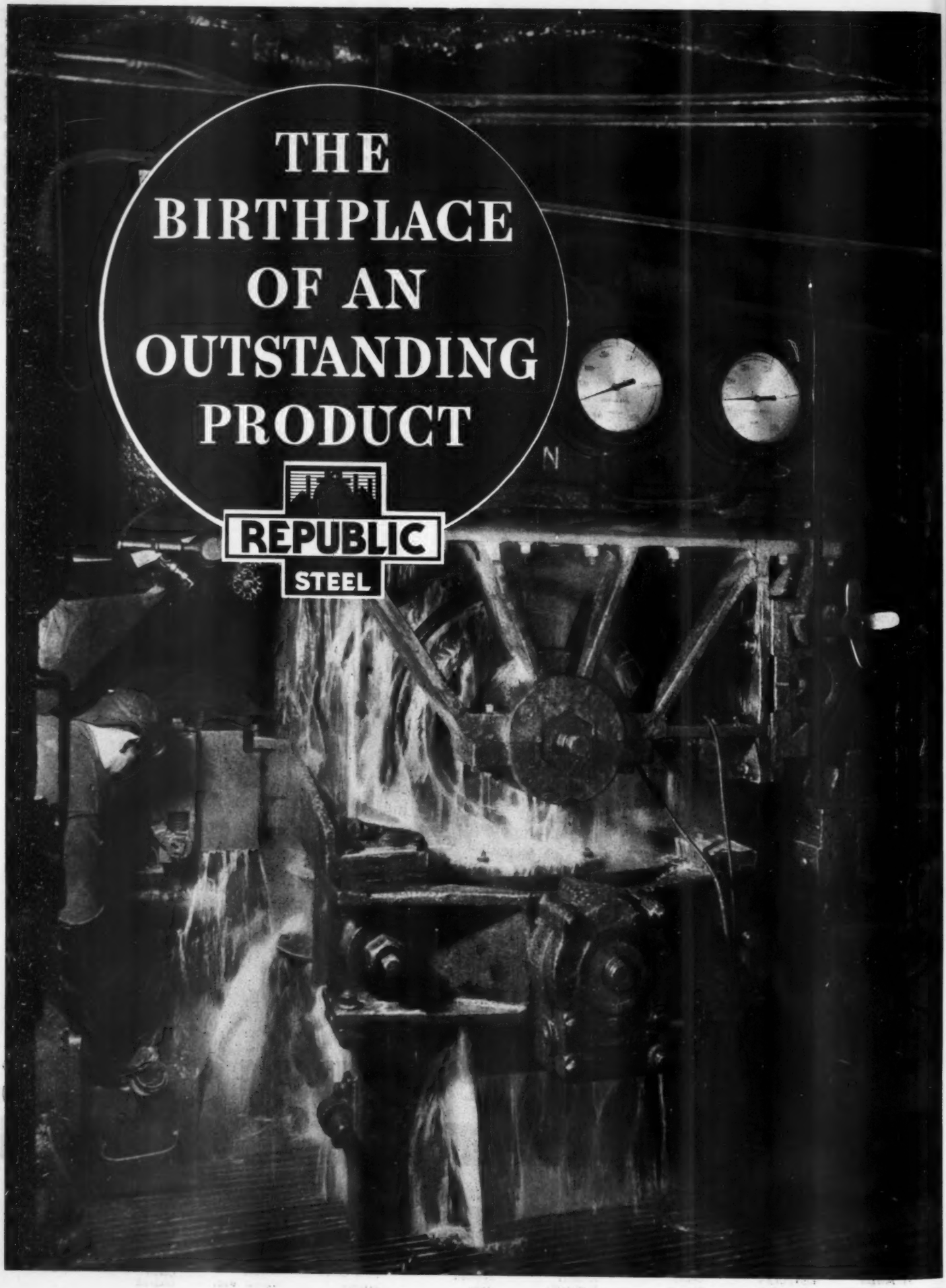
Glenrock
Greybull
Lovell
Lusk
Medicine Bow
Rawlins
Thermopolis
Worland


THE
BIRTHPLACE
OF AN
OUTSTANDING
PRODUCT
REPUBLIC
STEEL

REPUBLIC CASING

Suitable for any depth— in any field

Republic Steel

CORPORATION

GENERAL OFFICES · · · CLEVELAND, OHIO

VISIT THE REPUBLIC EXHIBIT AT THE GREAT LAKES EXPOSITION, CLEVELAND, OHIO, JUNE 27—OCT. 4.

When writing Republic Steel Corporation for further information, please address Department OG.

... NO WELL CAN PRODUCE MORE THAN ITS SCREEN ALLOWS

The Layne Milled Groove Screen does exactly what a Screen is supposed to do, namely, to let the oil in, disturbing the formation as little as possible.

Wire next to the pipe is smaller than the outside which makes the openings between the wires a little larger next to the perforations. This permits self cleaning; prevents clogging and offers freer passage-way for the oil.

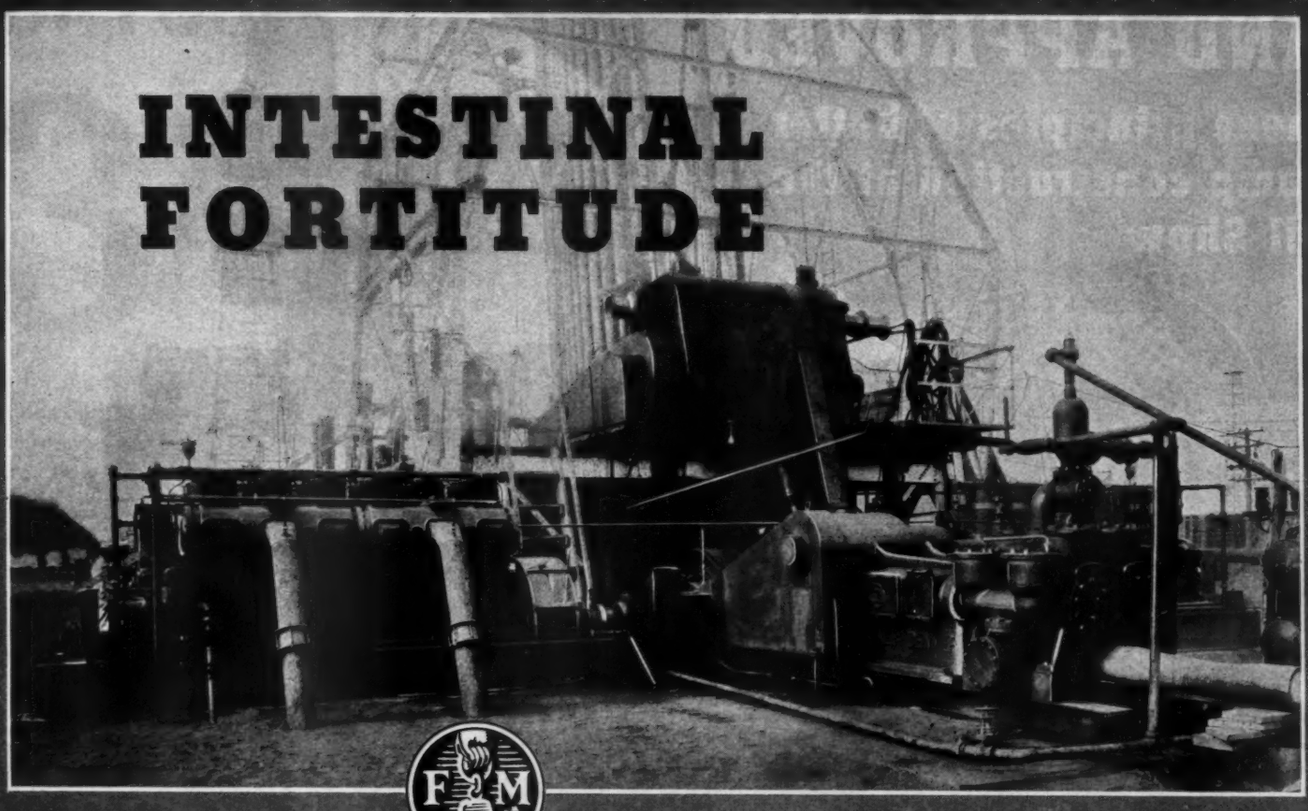
The vertical milled grooves form a cushioning effect for the oil which prevents any cutting effect over the hole.

The LAYNE & BOWLER CO., Houston, Texas

THE LAYNE

MILLED GROOVE SCREEN

INTESTINAL FORTITUDE



puts the F-M "35-E" at the head of its class for rotary drilling service

● It's what's *inside* the engine casing that counts in rotary drilling!

The F-M "35-E" gives every driller extra advantages that speed work and keep the cost down. First of all comes 2-cycle design—Diesel power in its simplest and most effective form. No cylinder head valves to grind. No peak-and-valley performance curves . . . Next comes back flow scavenging. Fuel economy that delivers the most power for the least money. Lowered maintenance costs. And of great importance to drillers is its high overload capacity and rapid acceleration for hoisting. The power stroke per revolution for each cylinder delivers a smooth yet flexible power characteristic, thereby minimizing strains due to shock loads and making for rapid acceleration and deceleration, as needed.

Before you buy ANY Diesel, get the facts about the F-M "35-E" and the extra design features that put it at the top of its class for plain "intestinal fortitude."

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106 YEARS OF PRECISION MANUFACTURING

FAIRBANKS-MORSE

Diesel Engines

POWER, PUMPING AND WEIGHING EQUIPMENT

THOUSANDS SAW AND APPROVED

these principles of better pump construction at the Oil Show

Cross-section view of power end of Gardner-Denver 7¼ x 14 FXK Power Pump.

SINCE 1859

GOOD
Design
Materials
Workmanship
Value

If you "looked inside" the Gardner-Denver 7¼ x 14 FXK Power Pump at Oil Show, you already know why Gardner-Denver leads today in pump des

Here are some of the features which make these pumps first choic any comparison—

- Short, straight crank shaft for maximum strength . . . no anchor in cente of shaft . . . stresses and strains balanced at sides of power frame.
- Eccentrics cast integral with hub on which main herringbone gear i mounted, thus providing much greater rigidity.
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- Timken tapered, adjustable main bearings—Hyatt roller jackshaft bearing
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Continental Supply Company, Continental Building, Dallas, Texas • Emsco Derrick & Equipment Company, 6811 So. Alameda St., Los Angeles, Calif

GARDNER-DENVER

For Your Oil Pumping Requirements

3 TYPES OF MANHATTAN BELTS

Belts for the oil fields are subjected to extremes of climatic conditions, unusual strains and stresses and a punishing type of service which would quickly destroy the average belt. For years Manhattan has had men who have grown up with the oil industry, both in the field and at the home plant, supervising the development of belting and other products—to fit the special conditions of oil field service. As a result we feature in this announcement three types of belting which are making enviable records for long and dependable performance. . . . Manhattan A. P. I. Compensated Belt is the pumping and general purpose belt for the oil industry. Manhattan Whipcord Endless Belt is recommended for drives where an endless belt can be used. Condor Whipcord V-Belt is the belt to use on new type Diesel Electric Units or wherever V-belt drives are found in oil field service. See detailed descriptions below.

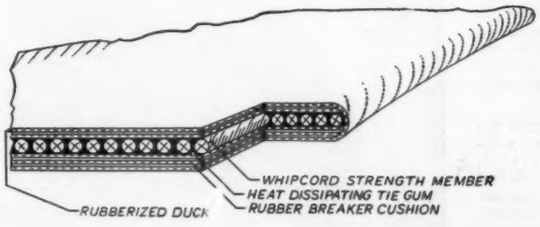
Typical Oil Pumping Unit on which these Manhattan belts are used.

MANHATTAN A.P.I. *Compensated* PATENTED

The Low-Tension Rubber Belt with equalized ply stresses

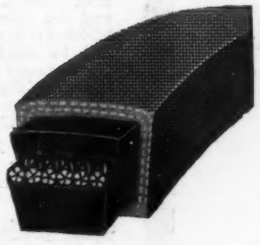
This belt bears the official A. P. I. monogram under license. It is Compensated for low-tension operation and for equalizing ply stresses over pulleys. Has twelve advantages not found in other belts, including freedom from rupture in outside ply, freedom from ply separation, longer fastener life and higher resistance to atmospheric conditions. The *all-purpose* belt of the oil industry.

MANHATTAN ENDLESS WHIPCORD



The ideal endless belt. Length practically unaffected by atmospheric conditions. Has high flexibility and great strength because the endless wound whipcord section is placed in the neutral axis area (see diagram above). Shrinkage and stretch are practically eliminated. Manhattan Whipcord, made endless at our factory, is especially suited for certain oil field drives, including standard rigs and band wheel powers where endless belts can be used. Manhattan engineers will gladly make recommendations for any special drive.

Condor WHIPCORD V-BELT



V-Belts are coming into wider use in the oil industry. Condor Whipcord V-Belt has the minimum inelastic stretch, wide margin of strength, uniform flexibility and other distinctive advantages which fit it for severe service. The Whipcord section is placed in the neutral axis area, a construction feature originated by Manhattan. Recent government 300-hour airplane drive test demonstrated the superior wearing qualities of this belt. Use it on your V-Belt drives.

OTHER SPECIAL PRODUCTS FOR THE OIL INDUSTRY

Rotary Hose, Oil-Loading Hose, Rubber Covered Pistons, Piston Liner Sleeves, Stuffing Box Rings, Steam, Water, Fire, Air Hose, Brake Lining for Draw Works, etc., Paranite G. O. P. Tank Truck Hose, Slush Pump Intake Hose, Molded Rubber Products

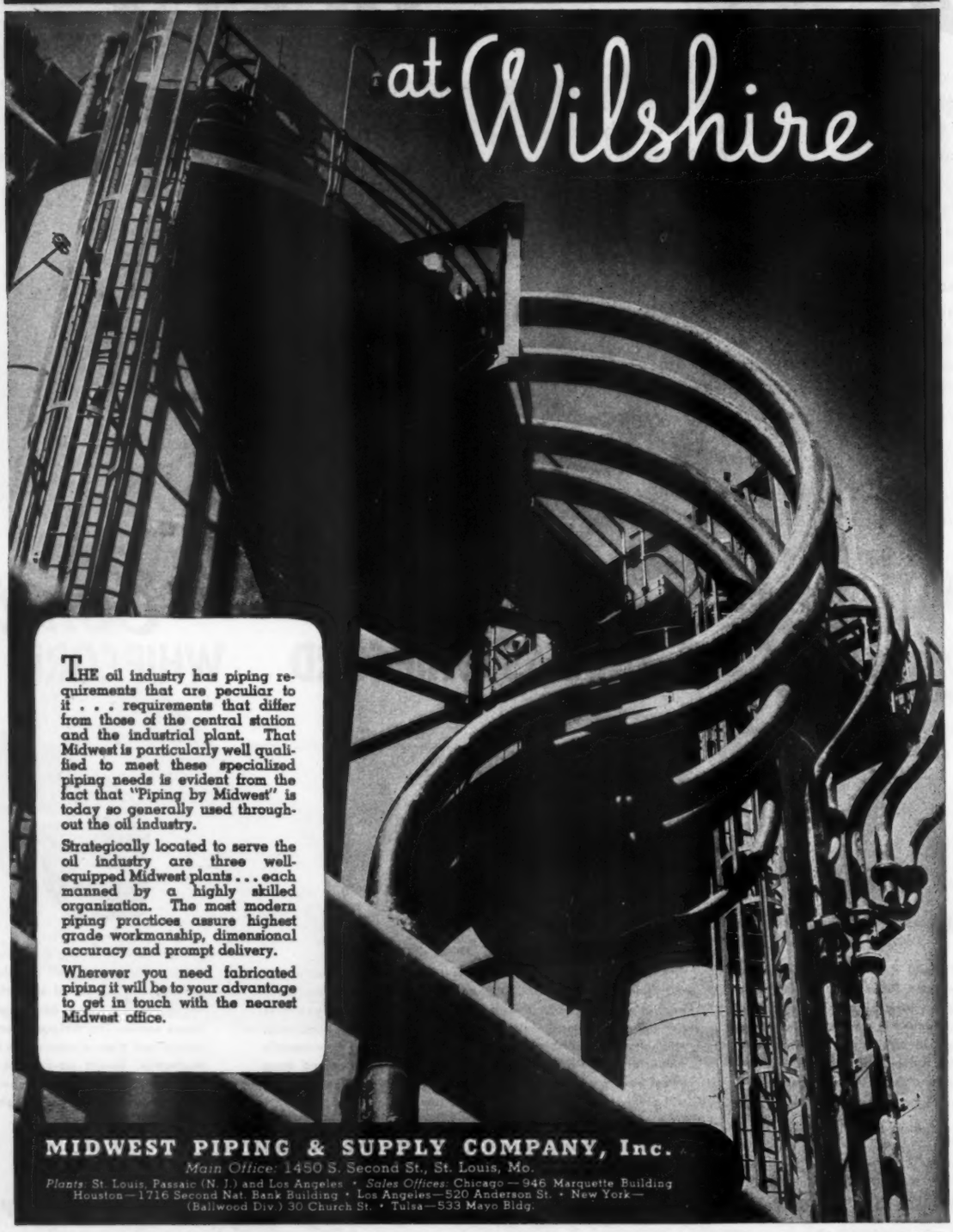
Distributed by The National Supply Companies—in all oil producing centers

THE MANHATTAN RUBBER MFG. DIVISION

OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES and FACTORIES, 70 TOWNSEND ST., PASSAIC, N. J.

PIPING BY MIDWEST



THE oil industry has piping requirements that are peculiar to it . . . requirements that differ from those of the central station and the industrial plant. That Midwest is particularly well qualified to meet these specialized piping needs is evident from the fact that "Piping by Midwest" is today so generally used throughout the oil industry.

Strategically located to serve the oil industry are three well-equipped Midwest plants . . . each manned by a highly skilled organization. The most modern piping practices assure highest grade workmanship, dimensional accuracy and prompt delivery.

Wherever you need fabricated piping it will be to your advantage to get in touch with the nearest Midwest office.

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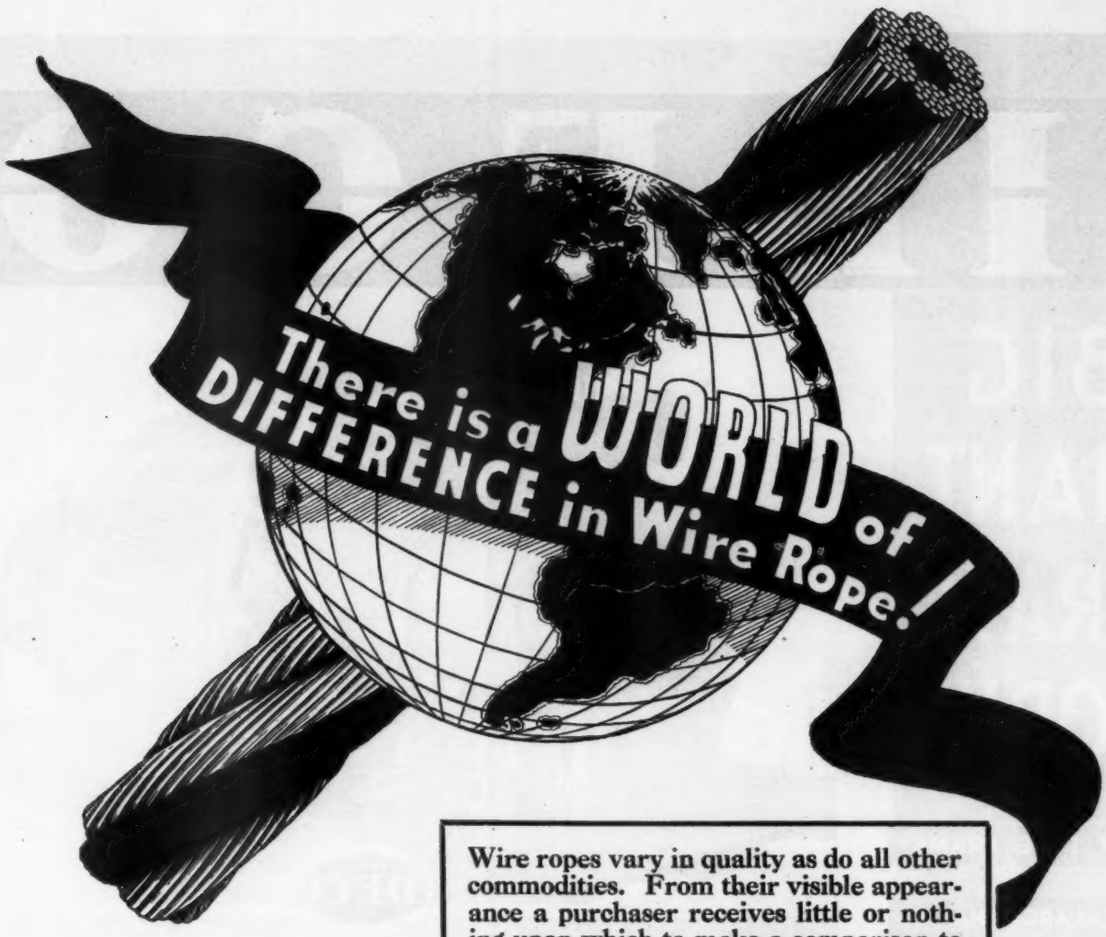

Wire ropes vary in quality as do all other commodities. From their visible appearance a purchaser receives little or nothing upon which to make a comparison to determine the difference in the service they will give.

It is only after the rope has been put to work—after it has stood the test of time, that the real difference shows up.

But "hit or miss" and "trial and error" methods of selecting a wire rope prove costly. So that you will have a definite and accurate method of predetermining that you are getting a dependable and economical rope, we have identified "HERCULES" Wire Rope with a single Red Strand, which is your assurance that its high quality is constantly maintained.

Specify "HERCULES" (Red Strand) Wire Rope on your next purchase order. You'll appreciate the difference.

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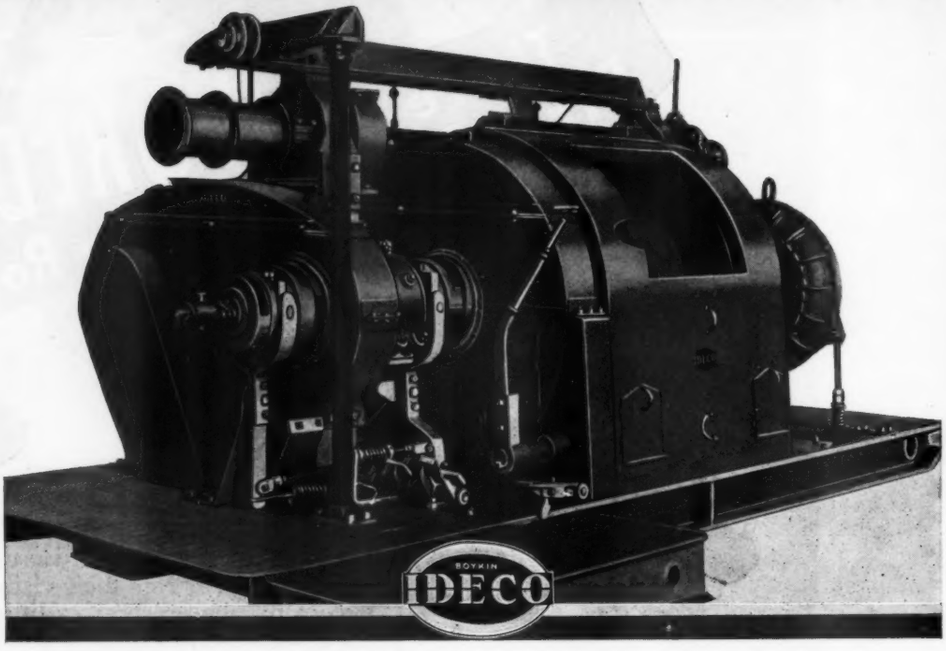

THE BIGGEST DRAW WORKS EVER BUILT ...for drilling DEEP WELLS

Designed to make a reputation and record for unmatched performance by its super strength and unfailing reliability.

To assure complete and positive lubrication and the longest life for its chains, we have used Cut-Tooth Double Sprockets with Double Chains running in Fully Enclosed, Oil-Tight Guards and lubricated continuously by a Pump-Driven Oil Circulating System.

These exclusive features, together with an Extra Large Drum, a Unit Type Frame and Oversize Shafts, fit it for drilling any depth wells and for the deepest explorations anywhere.

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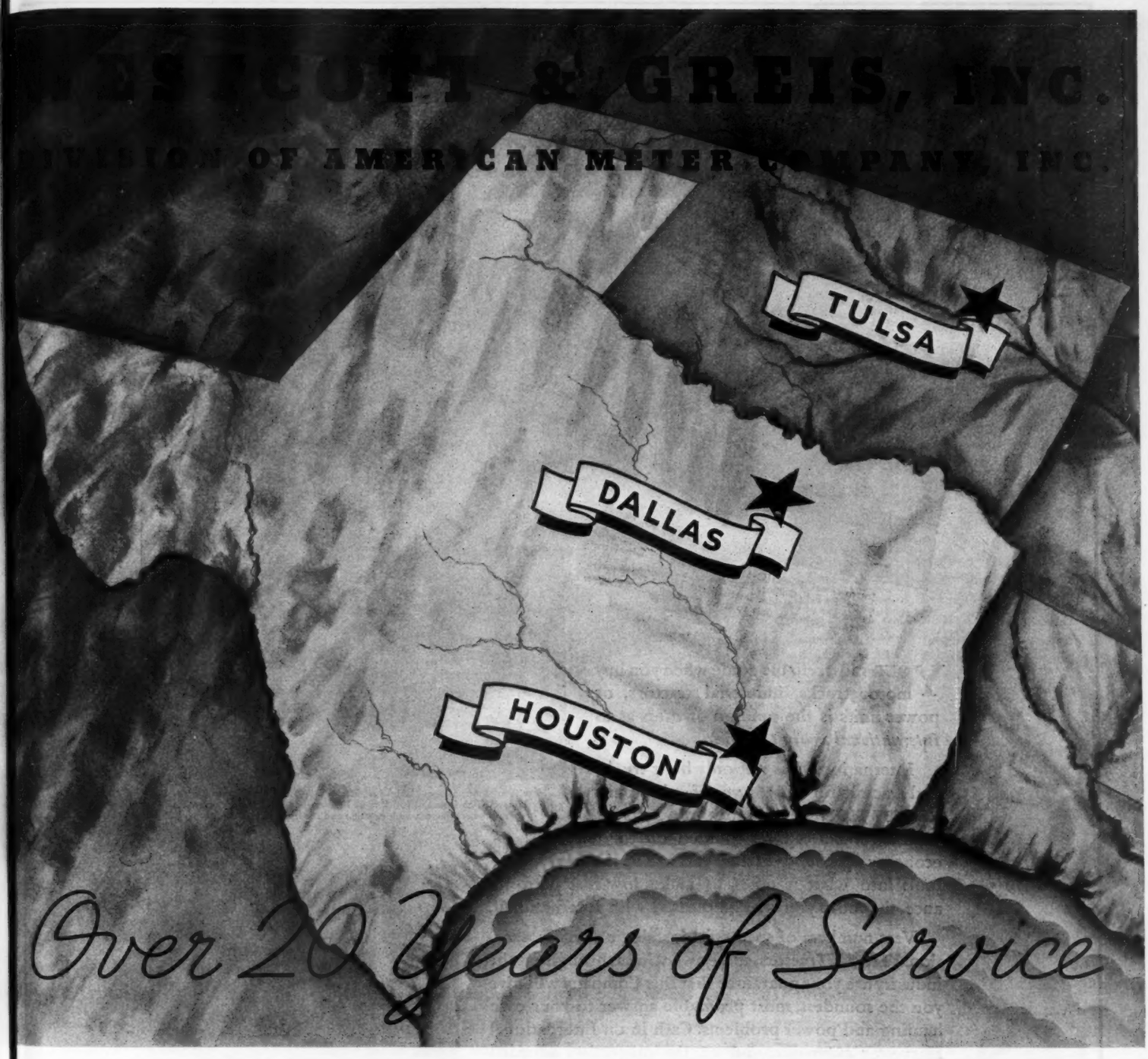

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"BANK ON INTERNATIONAL"

SOUND ADVICE FROM THE USER

International Model C-55-F dual-drive six-wheel truck owned by T. E. Collins, Shreveport, La., ready to haul this drawworks to location. International Trucks range in size from the Half-Ton unit to these powerful Six-Wheelers.

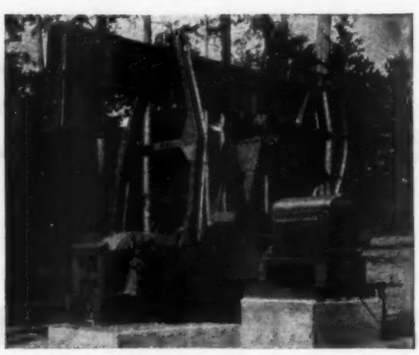
Here is an International rigid-frame Model TA-40 TracTracTor on a pipe-line job. The International line of industrial tractors includes crawlers and wheel tractors, with gasoline and Diesel engines.

YOUR most reliable guide when you buy motor trucks, industrial tractors, or power units is the opinion of users as to *International against the field.*

International has not only built trucks and tractors for over 35 years; it has built REPUTATION for quality products that oil men *know* can be counted on to deliver economy spread over the years. The longer you look into what it takes to make low-cost performance, the more you will be pleased with International.

Vast numbers of successful installations of International Trucks, Tractors, and Power Units throughout the industry are your guarantee that this Company will give you the soundest, most profitable answer to your own hauling and power problems. Cash in on International Harvester *experience,* and on the protection afforded this equipment by International Harvester *service.*

Call on the nearest Company-owned branch, or International dealer, for information. Catalogs sent on request.



An International Power Unit, using natural gas as fuel, pumping on the Lulu May Baker lease at Johntown, Texas. International Power Units range from 12 to over 100 h. p., and there are engines from 1½ to 5 h. p. for light-duty service.

INTERNATIONAL HARVESTER COMPANY
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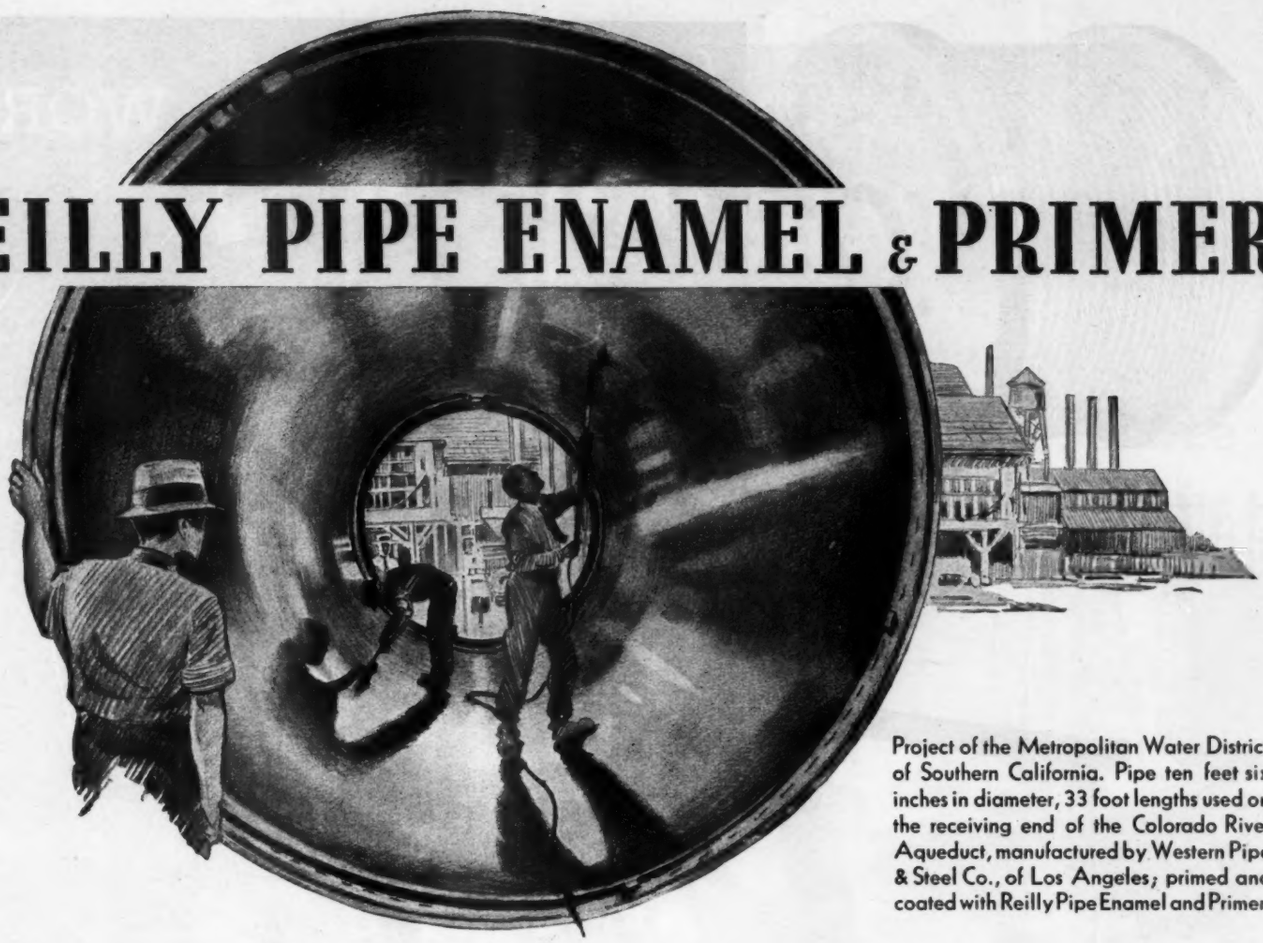
REILLY PIPE ENAMEL & PRIMER



Project of the Metropolitan Water District of Southern California. Pipe ten feet six inches in diameter, 33 foot lengths used on the receiving end of the Colorado River Aqueduct, manufactured by Western Pipe & Steel Co., of Los Angeles; primed and coated with Reilly Pipe Enamel and Primer.

For Inherent Dependability

When you select protective coatings or linings for steel pipe, make sure of the one characteristic which determines the very life of the installation . . . Dependability. • Reilly Pipe Enamel is dependable because it is basically a coal tar product carefully regulated within close limits in the manufacturing process, and properly combined with mineral filler. Reilly Primer together with Reilly Pipe Enamel offers a combination recognized as the finest protective medium for pipe line protection. • Reilly Enamel withstands rapid and extreme temperature changes . . . resists soil acids . . . alkalies, and electrolysis. Used as a lining, Reilly Pipe Enamel retards tuberculation and reduces pumping costs by maintaining a high co-efficient of flow. • Four decades of service in the coal tar field plus the facilities of fifteen modern plants provide a background of dependability upon which users of Reilly products rely with confidence.

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COAL TAR PRODUCTS

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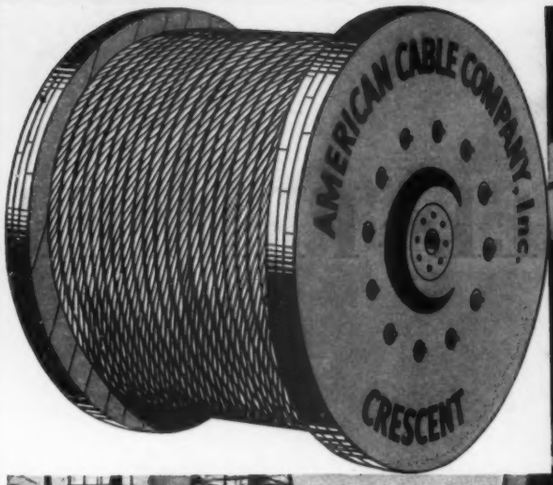

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DRILLING LINES
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Our complete stocks in all oil field centers assure prompt delivery and good service at all times.

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350 lb. SP- 550° F.
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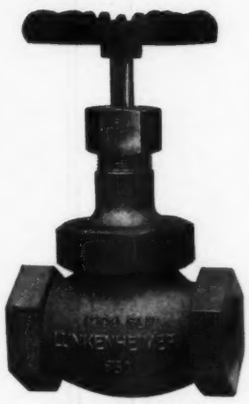


Fig. 1878 Globe
Renewable "NT4" Nickel Alloy Seat and Disc
Union Bonnet

Fig. 1879 Lift Check
Renewable Bronze Disc
Integral Seat

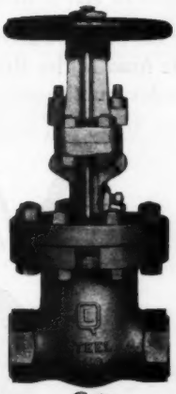
Fig. 1880 Swing Check
Renewable Bronze Disc and Side Plugs

Fig. 1881 Gate
Renewable "NT4" Nickel Alloy Seats and Disc

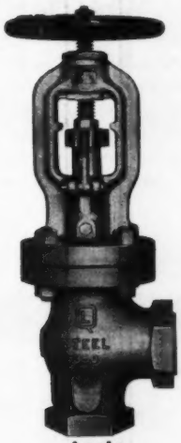
STEEL VALVES 350 lb. SP-580° F.

Globe
Fig. 1872 Screw Ends
*Fig. 1600 Flange Ends
Renewable Stainless Steel Stem and Disc
Nickel Alloy Seat Ring

Swing Check
Fig. 1490 Screw Ends
*Fig. 1491 Flange Ends
Renewable Stainless Steel Disc
Nickel Alloy Seat Ring



Gate
Fig. 1869 Screw Ends
*Fig. 1498 Flange Ends
Renewable Stainless Steel Stem and Disc
Nickel Alloy Seat Rings



Angle
Fig. 1873 Screw Ends
*Fig. 1601 Flange Ends
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Nickel Alloy Seat Ring

*(Basic Rating 300 lb. SP-750° F.)

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at Any Temperature

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Materials having susceptibility to internal defects such as cavities and cracks constitute dangerous risks of failure because of localization of stress in those regions.

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Henry Vogt Machine Co., Inc., Louisville, Ky.

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VOGT DROP FORGED STEEL—For better Valves, Fittings and Flanges

FIRST CHOICE
IN THE OIL COUNTRY
For—

—SURENESS

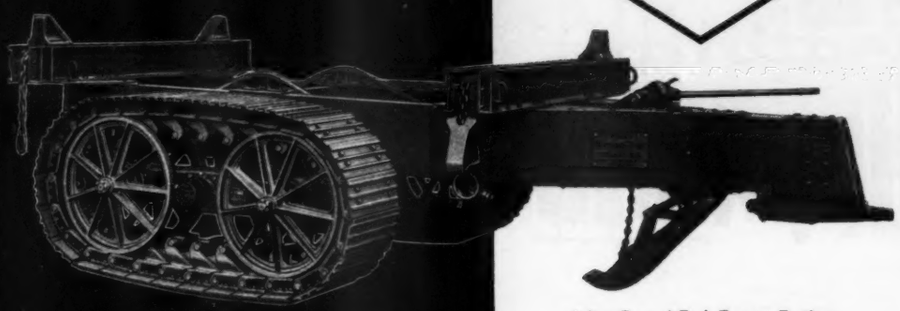
In any weather, on any ground, your loads *keep moving* when you haul with Athey Forged-Trak Wagons and Trailers. Self-cleaning, lighter-running wheels—with track pins sealed against abrasive mud and sand—protect you from interruptions in hauling and assure more working days per year.

—RELIABILITY

With their greater load supporting area—spring-mounted chassis to cushion loading and roading shocks—reinforced frames and extra strength in every part—Athey Forged-Trak Wagons and Trailers are built for toughest service.

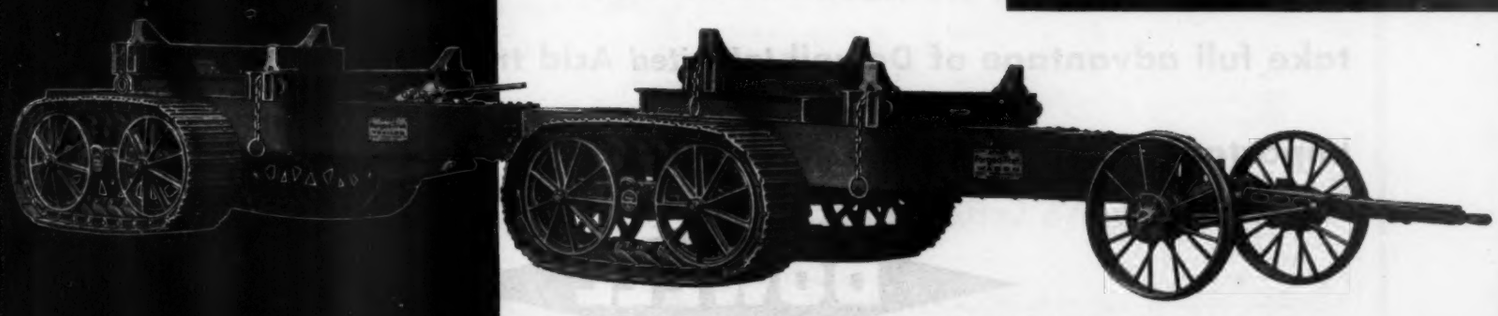
—ECONOMY

Athey Forged-Trak Wagons and Trailers carry bigger loads—yet require much less tractive power. This, with their ability to eliminate operating delays and to carry capacity loads where other equipment cannot work, means *lower cost per ton-mile.*



Athey Forged-Trak Tractor Trailer—furnished in 10, 15 and 20-ton capacities.

Athey Forged-Trak Tractor Wagon—furnished in 10, 15 and 20-ton capacities.



Athey Forged-Trak Combination Wagon—furnished in 20, 30 and 40-ton capacities.

ATHEY

ATHEY TRUSS WHEEL CO.

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Forged-Trak

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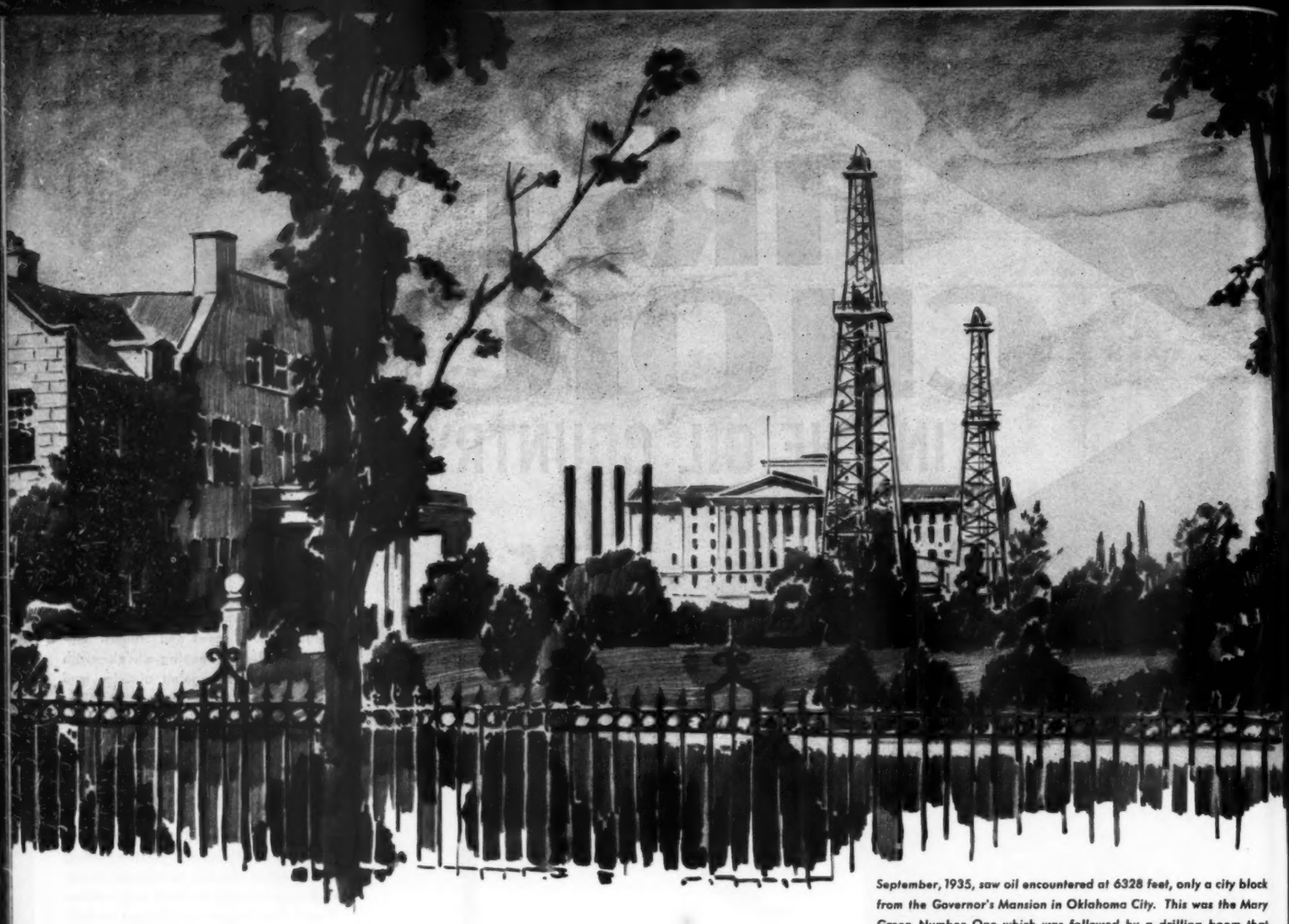

September, 1935, saw oil encountered at 6328 feet, only a city block from the Governor's Mansion in Oklahoma City. This was the Mary Green Number One which was followed by a drilling boom that gave Oklahoma City the Mansion Pool within its own corporate limits. Above is the Mansion of the Governor of Oklahoma and Oklahoma's State Capitol, showing oil wells on state property

The Mansion Pool in the corporate limits of Oklahoma City characterizes the vigorous enterprise of the oil industry in its quest for greater production. This same enterprise has led oil producers to take full advantage of Dowell *Inhibited* Acid treatments. Today the importance of Dowell and its broad service is an accepted fact.

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JULY 30, 1936
VOL. 35, NO. 11

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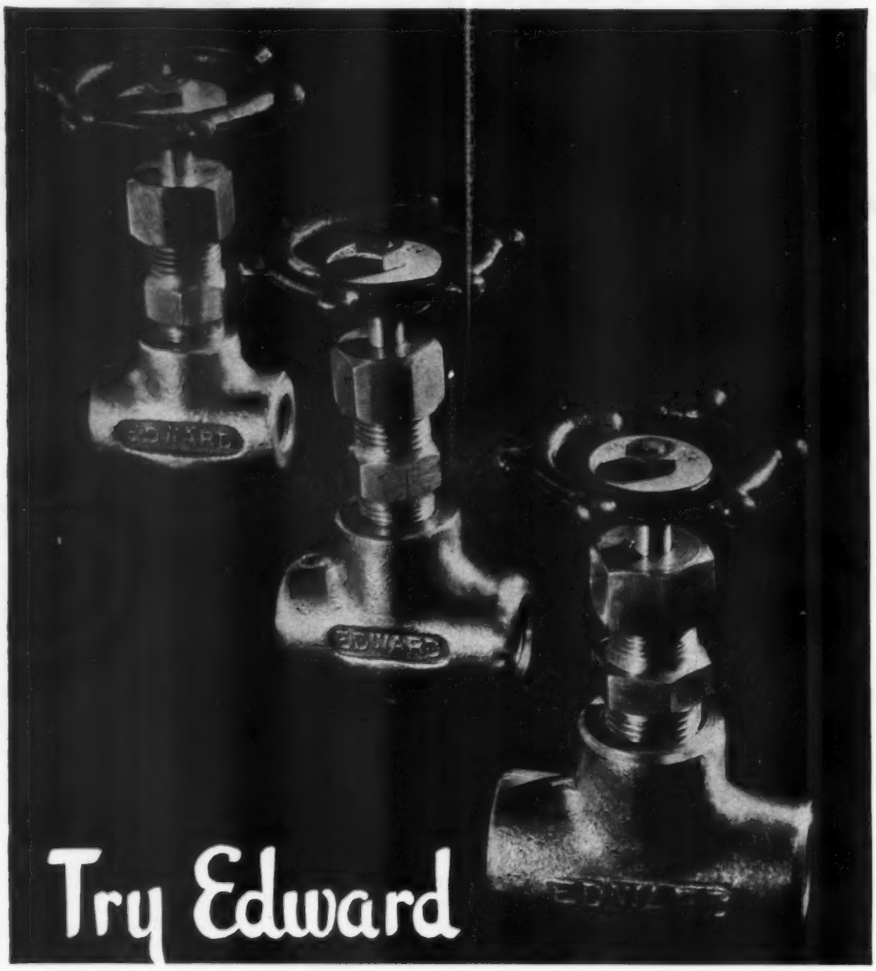

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Higher Crude Allowables Hopeful Sign

EVIDENCE that a better balance between production of crude oil and refinery demand for it is being approached is found in the action this week of Oklahoma operators, who recommended through their allocation committee that the Oklahoma Corporation Commission set the state's allowable for August at the figure named by the Bureau of Mines. It has been the practice of the corporation commission to fix an allowable much below that recommended by the Bureau of Mines, and the actual production has been about midway between the bureau's and the state's recommendations. The Kansas Corporation Commission, which customarily sets an allowable for that state below the one recommended by the bureau, is expected to use the bureau recommendation for August. The bureau's recommendation for Texas would allow the operators in that state to produce 8,200 barrels more daily in August than in July. The State Railroad Commission's proration order, which had not been issued early this week, was expected to adopt the bureau's recommendation, instead of naming a lower figure as hitherto.

As the Bureau of Mines recommendations for August in Oklahoma and Kansas, as well as in Texas, are larger than the recommendations were for July, it is apparent that the rising demand for crude has reached a point where crude stocks are not regarded as excessively topheavy.

Satisfactory inroads on the country's stocks of gasoline are recorded from week to week, and consumption has reached an all-time record. Concern has been manifested in some quarters over the effect that the widespread drouth might have on the market for oil products, but reports from marketers in various parts of the country, published in this issue of The Oil and Gas Journal, go far to show that while sales of gasoline, tractor fuel and certain lubricants may be affected in some agricultural areas, the total influence of the drouth is likely to be relatively inconsequential, since the gains in business in other regions, the ones in which normal consumption is heaviest, is so great as to neutralize losses in the less densely populated districts, where the effects of the drouth are felt most intensely.

Production 2,960,838

Decrease 20,505

The production division saw no important new pools opened, although the Rodessa pool in Louisiana was extended until it now is within 1½ miles of the Arkansas state line. The first productive oil field in Aransas County, Texas, was assured with the increased flow of the discovery well recently brought in. Importance of the Lopez field, in Webb County, Texas, was heightened by completion of a new well producing at the rate of 840 barrels daily. Adhering still to a strong belief there is oil in Coal County, Oklahoma, owners of acreage are preparing to drill a fourth deep test.

Daily Average Production for Week

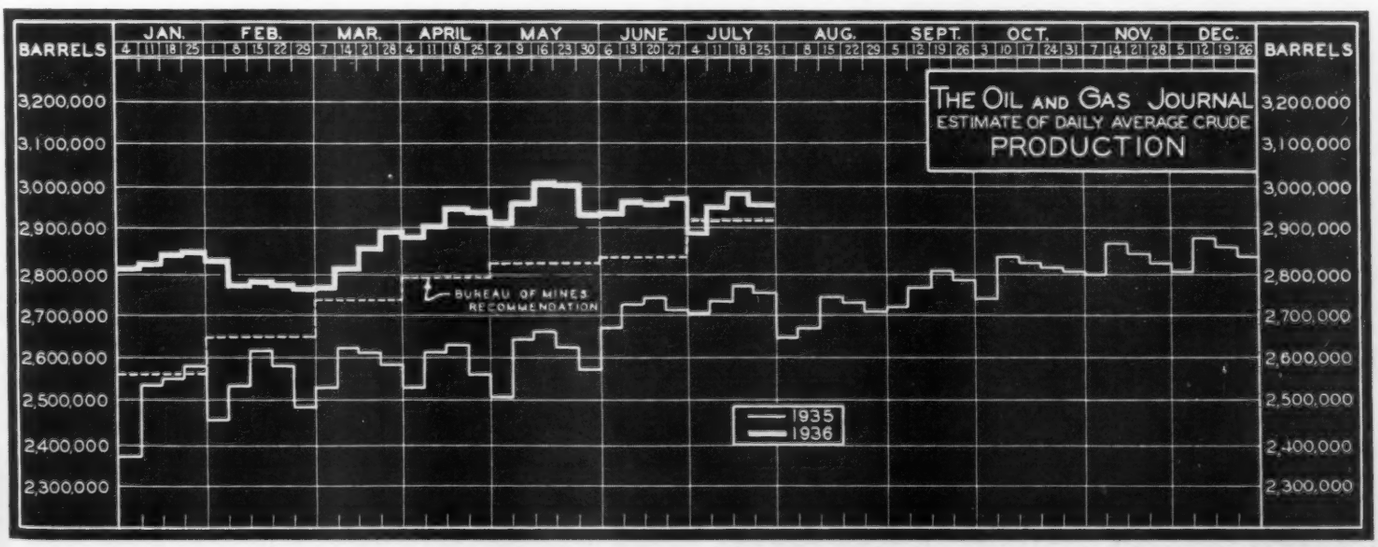
	July 25 1936	Bur. Mines July est.	July state allowable	July 18, 1936
Oklahoma City	131,950	.....	.....	149,950
Seminole-St. Louis	98,895	.....	.....	99,975
Remainder of State	317,375	.....	.....	309,450
Total Oklahoma	548,220	569,800	526,175	559,175
East Texas	432,747	.....	.....	431,750
West Texas	176,849	.....	.....	178,747
North Central Texas	85,143	.....	.....	85,593
Texas Panhandle	63,997	.....	.....	61,947
East Central Texas	56,387	.....	.....	55,887
Gulf Coast Texas	251,000	.....	.....	249,642
Southwest Texas	85,742	.....	.....	84,683
Total State of Texas	1,151,865	1,146,500	1,127,850	1,148,249
North Louisiana	82,575	.....	.....	80,020
Gulf Coast Louisiana	150,292	.....	.....	148,339
Total Louisiana	232,867	186,800	224,900	228,359
Santa Fe Springs	44,250	.....	.....	44,700
Long Beach	66,300	.....	.....	67,100
Kettleman Hills	77,600	.....	.....	78,250
Remainder of State	388,000	.....	.....	394,750
Total California	576,150	550,800	*544,000	584,800
Kansas	157,325	164,200	151,629	161,250
Arkansas	29,725	31,300	.....	29,675
Eastern Fields	109,800	107,700	.....	110,000
Michigan	28,486	33,800	.....	32,425
Southeastern New Mexico	68,970	68,400	73,055	69,960
Rocky Mountain area	57,430	57,900	.....	57,450
Total United States	2,960,838	2,917,200	.....	2,981,343

*Recommendation of Central Committee of California Oil Operators.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATE)

Week ending July 18, 1936	308,859,000
Week ending July 11, 1936	309,383,000
Week ending July 20, 1935	331,400,000



SPARKS FROM THE NEWS

13-Year High

Discovery of 8,358 new oil wells during first six months of 1936, is greatest for similar period since 1923. 71 per cent of all completions found oil, thanks to scientific direction of the geologist and geophysicist.

Life-Saver

Demand for all petroleum products ran 10.42 per cent ahead of last year for first four months of 1936. From all indications, this gain is being maintained to date. Imagine present situation with only a normal increase!

Page League of Nations!

Rodessa makes bid to become tri-state pool with extension in Caddo Parish, Louisiana, within 1½ miles of Arkansas line. After all, a good thing can be carried too far.

Steady!

Establishment of August oil allowables by Oklahoma, Kansas and Texas is awaited with interest. Bureau of Mines recommendation is considered high, but may be accepted. Retention of present levels is safer.

Old World Tactics

This tax tendency defeats us. Louisiana bobs up now with a 20 per cent tax on lubricating oil. We are still adopting the mistakes of Europe.

Necessity

People needed and clung to their cars during the depression. So why not through the drouth?

Diversion

Pennsylvania senate is considering an additional half-cent tax on gasoline to finance relief. Why should gasoline consumers pay more for relief than milk or beer consumers?

Coroner's Jury

Railroad Commission has university students in East Texas looking for dead wells reported still producing by proxy. Action should follow verdict.

Tax vs. Trade

Lord Bearsted tells Shell Transport & Trading stockholders growing taxation is limiting expansion of motor fuel consumption. Another version of you can't have your cake and eat it.

Question

There is a question whether a drouth causes cars to be retired from service or whether they are used more by owners temporarily retired enjoying government aid.

Discovery

Recent developments indicate large flowing discovery wells do not necessarily establish major crude reserves. Acreage is a factor.

Balance

Oil-burner sales running ahead of last year. Problem of maintaining balance between gasoline and fuel oil output to be more acute next winter.

Foresight

Natural gasoline is being purchased for next winter by farsighted buyers who realize present heat wave is not a permanent phenomenon.

Strikes

Strikes affecting foreign oil operations are factor in the enlarged export movement of refinery products from this country.

Real Test

The new Louisiana oil conservation law will be as good as its enforcement. Which is the case with all laws.

Scientific Substitution

The method of open-flow tests for determining potentials is being prepared for discard. Conservation which does not conserve is just a bit illogical.

Rodessa Will Not Upset Natural Gasoline Market

By W. T. ZIEGENHAIN

Mid-Continent natural gasoline prices have been relatively low since the middle of February and one important depressing factor has been the threatened increase in gasoline production from plants building and to be built in the Rodessa field of North Louisiana. It now appears, however, that the fear of expanding production greatly exceeded that increase which will be actually realized, for, while the extension of the present wet-gas and oil area remains a definite possibility, students of the field indicate it certainly is nothing more than that.

At present three large natural gasoline plants are operating within the Rodessa-Myrtis area, namely, those of the United Gas Public Service Corp., Arkansas Fuel Oil Co. and the Pelican Oil & Gasoline Co., Inc. The first two have operated for many years but each is to be substantially enlarged. The Pelican plant, the first new plant to operate, was recently completed and more new plants are under construction, the Glen Rose Gasoline Co. and the Rodessa Gasoline Co. Plans for three smaller plants to be located in the north end of the field or on the Texas side have been tentatively made but their construction await financing.

DISTILLATE WELLS

To gain an understanding of gasoline plant operations in the Rodessa area, it is necessary to take into consideration the nature of the producing wells to which the plants are connected, for, instead of the conventional classification of these as oil wells or gas wells, many wells in the Rodessa field produce a distillate of 60 or higher gravity and most natural gasoline plants in the field are equipped to process some of this distillate as well as handle the wet gas.

The quantity of gasoline being recovered in the field from this distillate is equal to and probably exceeds for the present, the quantity of natural gasoline recovered from the wet gas. Natural gasoline production from gas based on the 26-70 grade is running close to 125,000 gallons daily while the yield of gasoline from distillate is probably 146,000 gallons per day. Also, the nature of this distillate is such as to be more competitive with low octane refinery gasoline than natural gasoline.

Over the next two months the production of each of these products will increase, the extent of the increase depending upon the rapidity with which the Rodessa town-lot drilling program develops, for this land happens to lie in the so-called "distillate" well area. Those who are watching the possibility of a wild drilling program developing there take comfort in the fact that much of the area is controlled by the United Gas Public Service Corp., the Arkansas Fuel Oil Co., Standard Oil Co. of Louisiana, Magnolia Petroleum Co. and Tide Water Oil Co., not one of which is anxious to drill more wells than necessary to protect offset interests.

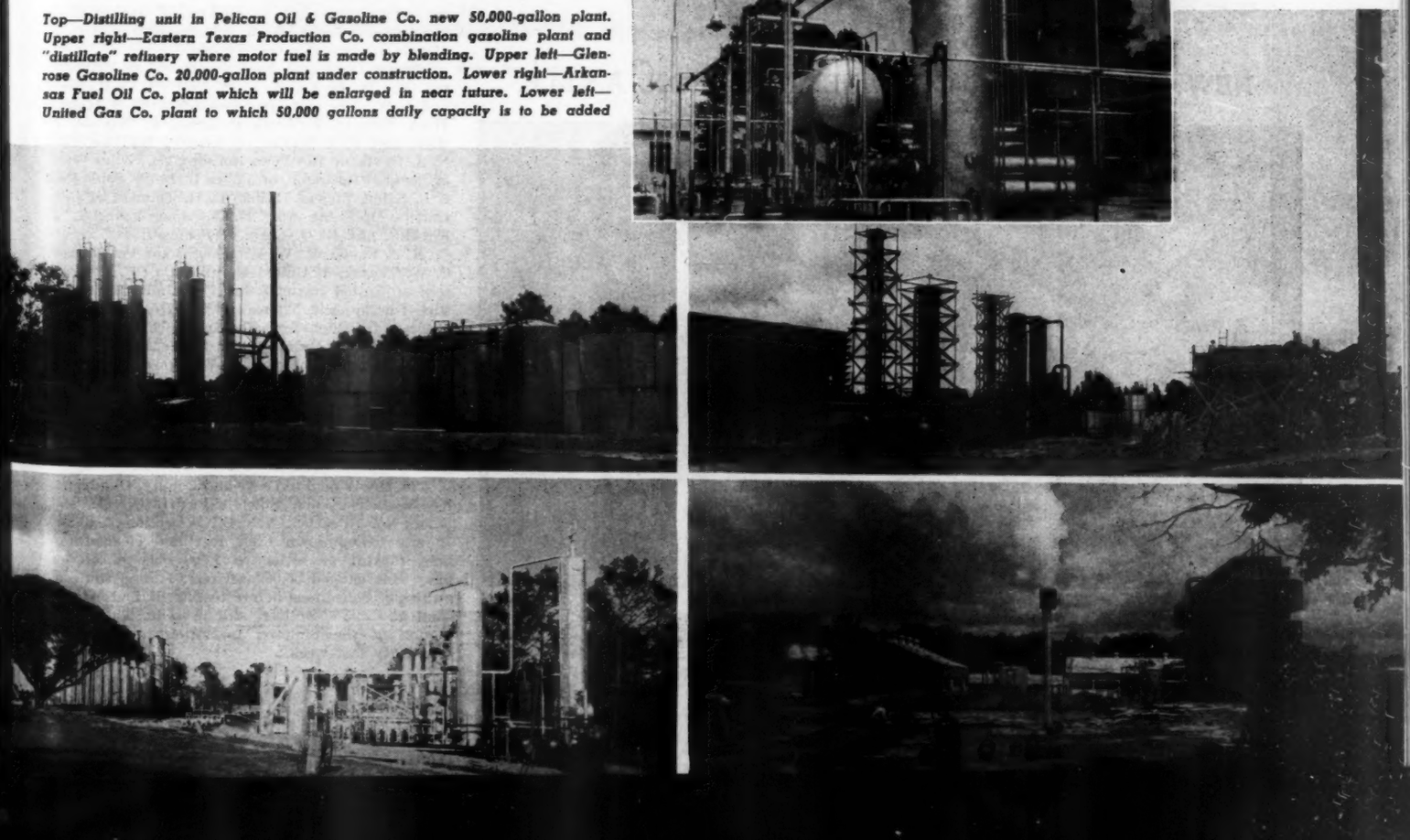
A second important factor to influence future natural gasoline and distillate production is the course the Louisiana and Texas legislators will take in considering establishing a maximum gas-oil ratio. Efforts are being made to fix the maximum production of gas at 2,000 feet per barrel of oil on the Texas side of the field in contrast with the 16,000 feet of gas being produced in some wells.

NEW CONSTRUCTION

While the future influence on gasoline production by these two factors remains indeterminate, it is possible to estimate the extent of new production by reviewing the construction work now in progress and this work will be of much greater influence since comparatively few wells are now connected.

The United Gas Public Service Corp. is undertaking the most extensive building program through plans to double the capacity of its existing plant. Work is now well under way and includes adding a 250 horsepower twin Clark compressor and an 85 horsepower Cooper-Bessemer compressor. This in turn necessitates the addition of 20 feet to the compressor building. The capacity of one of the Fluor cooling towers will be increased by about 60 per cent by adding 72 feet to its length and 20 feet to its height. A 32-foot by 40-foot pump house will be built. On the oil processing side three 48-inch by 30-foot absorbers will be erected having a combined capacity of 50,000,000 feet of gas daily. To handle the enriched oil a 60-inch by 45-foot fractionating tower serving a 50,000-gallon still will be added to the plant. With the addition of the new unit, the plant will be able to turn out between 130,000 and 140,000 gallons of natural gasoline daily.

A new stabilizer capable of finishing 85,000 gallons of 26-70 natural daily will be added and the older stabilizing equipment will be converted to make 12-pound material. To supply additional steam, four 150 horsepower boilers will be added and to supply the additional water one new well will be drilled. Tankage now being built or to be erected in the near future includes one 5,000-bbl. vertical steel tank and three horizontal 25,000-gallon tanks. Several oil and water pumps, all Byron Jackson centrifugals driven by Elliot steam turbines, will be installed. Loading facilities for two cars will be



Top—Distilling unit in Pelican Oil & Gasoline Co. new 50,000-gallon plant. Upper right—Eastern Texas Production Co. combination gasoline plant and "distillate" refinery where motor fuel is made by blending. Upper left—Glenrose Gasoline Co. 20,000-gallon plant under construction. Lower right—Arkansas Fuel Oil Co. plant which will be enlarged in near future. Lower left—United Gas Co. plant to which 50,000 gallons daily capacity is to be added

added to the present rack and a new spur will be built to accommodate 10 cars, providing space for a total of 12 additional cars. The new lines being laid within the plant are made up generally of 12-inch to handle the gas and 6-inch to handle the oil, all of which are welded.

The second largest construction job to be undertaken will be that of the Arkansas Fuel Oil Co. where tentative plans have been formulated to add sufficient capacity to handle 24,000,000 feet of additional gas daily. Actual construction has not started however and only that will be undertaken which will be necessary to handle the gas coming from new wells the company will drill on its own properties.

The third major construction program is that undertaken by the Glen Rose Gasoline Co., which involves the building of an entirely new 20,000,000-foot well-pressure plant and this will be augmented by equipment to handle about 1,000 bbls. of 60 gravity distillate daily. Construction is well under way on this plant and plans call for starting operations August 1. The new plant will finish about 20,000 gallons of natural gasoline daily to which should be added the volume of gasoline made from the distillate to be processed.

The next largest complete unit under construction is that of the Rodessa Gasoline Co. where equipment is being assembled to run 40,000,000 feet of gas. This will operate also as a well-pressure unit, producing about 11,000 gallons of natural gasoline daily. The plant is expected to start operating by August 1.

ESTIMATED PRODUCTION

Taking into account the effect of expanding the operations of the United and Arkansas Fuel plants, the full effect of operating the new Pelican plant and providing for the operation of the Glen Rose and Rodessa Gasoline Co. plants now building, the output of natural gasoline from the Rodessa area is not likely to exceed 245,000 gallons daily at any time within the next 90 days, and the best estimate of what might be considered as a maximum production to come from the present field, even though additional plants are to be constructed, was 350,000 gallons daily.

The old United and Arkansas Fuel Oil plants produced close to 100,000 gallons daily before the lower producing sands of the Rodessa field were discovered a little more than a year ago so the actual increase in natural gasoline production the industry needs to absorb over the immediate future appears to be in the neighborhood of 145,000 gallons or not over 20 cars daily.

DISTILLATE PLANTS

Since the production of distillate plays such an important part in the operation of natural gasoline plants in the Rodessa field at present, and because so much attention has been given to it here, it may be of interest to review two distillation tests made on two typical samples of the material as it was produced from the wells.

DISTILLATION TESTS ON TYPICAL SAMPLES OF RODESSA DISTILLATE AS IT WAS PRODUCED AT THE WELLS

Gravity	64.5	64.4
I.B.P.	98	100
10 per cent	160	170
20 per cent	186	194
30 per cent	209	215
40 per cent	228	233
50 per cent	250	253
60 per cent	270	277
70 per cent	306	305
80 per cent	343	341
90 per cent	406	398
95 per cent	472	496
Endpoint	474	518
Recovery	96	96.5
Color	1½ N.P.A.	18
Doctor	Negative	Negative

Contains about 85 per cent of 400 endpoint gasoline.

PLANT OPERATIONS

When this material is distilled it may be made to produce a 350 endpoint 52 octane motor fuel, a 400 endpoint 48 octane motor fuel or fractionated to natural gasoline characteristics. From the distillation of the distillate it becomes apparent that a large production of this distillate could seriously effect both natural gasoline prices and third-grade refinery gasoline prices, but those who control the situation do not anticipate a large increase in production of distillate even though new wells are drilled in the Rodessa "town-lot distillate" area. The highest estimated daily future production of gasoline from distillate was given as 7,000 bbls. daily.

In addition to the natural gasoline plants in the field which process this distillate, there are two plants specifically designed to process it. The older and larger of these is that belonging to the Eastern Texas Producing Co. and the other is known as the North Caddo Refining Co.

The Eastern Texas plant is fully equipped to process the distillate to a finished motor fuel by blending the distillate gasoline with natural gasoline which the plant recovers from the gas accompanying the distillate as they come from the field.

The North Caddo plant processes only the distillate as it is brought to the plant and finishes between 400 and 500 bbls. of motor fuel daily.

PIPE LINES

As additional wells are drilled and connected in the Rodessa area, more of the distillate will go into pipe lines with the crude oil for delivery to refineries along the Gulf Coast and the identity of the distillate will be lost. In a similar manner, a large part of the natural gasoline production within the Rodessa area might eventually find its way into the crude oil pipe lines for delivery to Gulf Coast refineries.

NEW OFFICERS MID-CONTINENT SECTION, A.S.M.E.

Dr. Emory Kemler of Gulf Oil Corp., secretary; John Keyes of Shaffer Specialty Co., vice chairman; Roscoe G. Ayers of National Supply Co., chairman, and C. H. Keplinger of Shell Petroleum Corp., treasurer, newly chosen officers of A.S.M.E. Mid-Continent section.

Oil City N.P.A. Meeting

OIL CITY, Pa., July 25.—The presentation of a motion picture illustrating what happens when gasoline vapors and air explode inside the automobile engine cylinder drew one of the largest attendances of the year at the sectional meeting of the National Petroleum Association's technical division, held in Oil City, July 23. The meeting was attended by over 100 technologists from all divisions between Olean and Pittsburgh. Drs. G. M. Rassweiler and Lloyd Withrow of General Motors Corp. were the principal speakers of the evening, discussing the motion picture as it was shown.

To study the flame propagation over the cylinder area and to see what happens inside the engine cylinder at the moment of combustion, Drs Rassweiler and Withrow fitted a quartz window over the cylinder and devised a new type camera. The motion pictures revealed that the vapors in the cylinder head do not burn evenly, but form a swirl of flames which has a high front temperature, and later through compression effect, a still higher back flame or heated area in the wake of the explosion. The photographs also showed the markedly different behaviors of low and high octane motor fuels. By spectroscopic means it was possible to determine heat values at different points of the flame.

Present at the meeting were the following: Russell Buckham, chairman of the Oil City division; Willis Crane, of the Washington headquarters of the association; M. C. O'Brien, C. A. Walters, W. L. Bowser, C. F. Mason, L. O. Webster, W. H. Edler, of Atlantic Refining Co.; H. C. Salisbury and J. W. Flaherty, of Bradford Oil Refining Co.; W. A. Johnston and E. M. Hyatt, of Bradford Penn Refining Co.; Clifford Koch, of Canfield Oil Co.; R. S. Dawson and R. E. Dunham, of Conewango Refining Co.; P. A. Loofbourrow, George C. Schepp, of Continental Can Co.; F. W. Breth and R. P. Collough, of Daugherty Refining Co.; T. G. Murphy, L. W. McClinnans, R. E. Guluse, and F. R. Alsberg, of Franklin Creek Refining Co.; R. J. S. Pigott, C. W. Butler, Wilder C. Stickney, J. E. Taylor, C. J. Livingstone, and H. C. Hunter, of Gulf Research and Development Laboratories; W. W. Beck, J. E. Eisler, Lewis Sherwin, and G. M. Kirkwood, of Pennsylvania Refining Co.; E. T. Coleman, M. W. Luther, W. H. Rockman, K. B. Ogilvie, C. J. Anderson, F. E. Williams, F. J. Planker and D. E. Bechtel, of Quaker State Oil Refining Corp.; R. B. Allmendinger and P. F. Mathis, of Superior Oil Works.

James Dilts and Paul T. Green, of Valvoline Oil Co.; W. B. Smith, L. M. Baltzell, C. R. Scott and A. W. Cole, of Wolverine-Empire; C. E. Hulme, H. A. Krantz, E. Lord, P. Lynn, F. McCool, P. Rich, and Max Geisler, of Kendall Refining Co.; N. A. Davis, of Mid Penn Refining Co.; John Weiser, Russell Buckham, of James B. Berry Sons' Co.; I. L. Kline, Eugene Hanna, C. H. Thomas, of Continental Refining Co.; H. A. Spiegelman, T. J. Harkins, and G. O. Ebry, of Pennzoil.

H. J. Paugh, H. W. Wagner, Victor Ver Milyea, C. W. Thayer, of United Refining Co.; C. A. Pearson, of United Natural Gas Co.; J. E. Moorhead, Wes Dunlap, and Thomas McAuliffe, of the P.G. C.A.; J. H. Mitchell, C. Quirin, G. E. Prentiss, H. D. Pratt, D. E. Cronk, E. W Ryder, D. M. Cronk, and Hub Miller, of Socony-Vacuum; J. R. Fay, the Mars Co.; W. J. Hannigan, and A. M. Cox, of Crew Levick.

1,000 Bbls. Per Hour

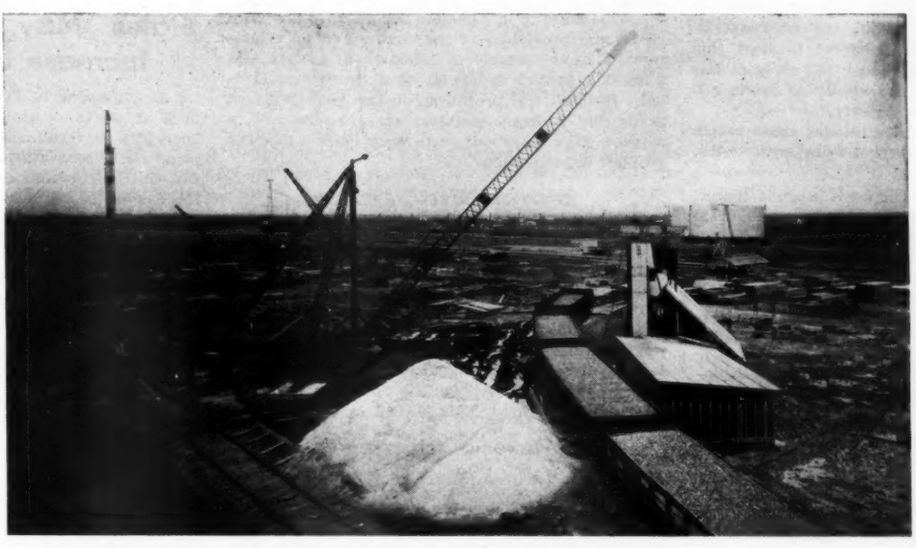
The Moore pool in Cleveland County, Oklahoma, has another gusher, Sinclair Prairie Oil Co. and others No. 1 Peaches, NE SE NW section 21-10-2w. It was bailed down 1,800 feet and cleaned the hole, flowing an estimated 1,000 bbls. of oil an hour. Gas gauged 35,000,000 feet. It was shut in, awaiting connections before testing. It had Wilcox sand at 7,295-7,309 feet, still in sand. The upper section of the Simpson formation in this well tested dry last week.

New Refinery Construction and Work Under Way Create Coastal Activity

By GEORGE WEBER

HOUSTON, Tex., July 27.—Refining capacity and scope of operations in Gulf Coast refineries are being steadily augmented, as major projects in the present widespread program of construction in that section approach completion and are placed on stream. Although many installations have been completed, the trend of new construction, and the continuance of existing work, will probably offset any construction decline and sustain the activity for several months to come.

Considering the volume of work undertaken since January, and the indicated schedule for the remainder of the year, 1936 appears to be a record year from that standpoint. Since the concentration of refining capacity is greater in Gulf Coast than in any other section of the world, this trend takes on major significance. The expansion and refinement of the Gulf Coast plants comprises nearly every phase of the refining industry. Crude capacity of several plants is being swelled by installation of modern combination topping, cracking and reforming units. The range and quality of refined products is materially increased by addition of solvent extraction, solvent dewaxing, polymerization vapor recovery and other equipment. This diversification of new construction reflects the improved confidence of refiners in the oil industry's present outlook, as well as the policy of keeping pace with, and pioneering in the rapidly developing trend of refining technology.



Preparation of site for 30,000-bbl. per day combination cracking plant at Texas City

Although the recent increase in capacity of plants on the Gulf Coast will exceed 150,000 bbls. per day when the projects now proposed or under construction are completed, the entire picture is not revealed in this figure alone. The improvement of the unit processes within the refinery is an important factor also; particularly the developments of new methods.

Of the total increase in plant capacity resulting from the construction of the past several months, about 60,000 bbls. is already in operation, and remainder will be added over a probable period of six months. Progress in some projects has lagged behind the expected status at this date, due mainly to more lengthy consideration of plans, and the inability to obtain fabricated equipment in sufficient quantities to cope with local construction activity.

Practically all of the refinery construction centers around the plants of the Sabine area of Beaumont and Port Arthur, and the Houston district including Texas City and points along the Houston Ship Channel. The activity includes the entry of three new companies to the Gulf Coast, and the marked activity of two others which have operated in that area but a short time.

The largest complete refinery construction project now in progress in the Sabine area is the new 20,000-bbl. refinery being built for the Atlantic Refining Co. at Atreco. The $3,000,000 construction program is progressing under contract with the M. W. Kellogg Co. Little of the heavy equipment is yet on the site, but foundation work, and building is rapidly being completed. The design of suitable foundations, necessitating use of much piling, is of prime importance in that area, where the soil is of soft unstable nature. At the present time, installation operations of the new plant are awaiting receipt of fabricated material.

The refinery is located at the terminus of two Atlantic Pipe Line Co. trunk lines from East Texas and West Texas. Accessibility to deep water transportation in the adjacent Beaumont Ship Canal will facilitate easy outlet for refined products to East Coast and other coastal and export markets.

At Beaumont, Magnolia Petroleum Co. having placed a new 32,600-bbl. combination unit on stream late in March, is now adding new units for solvent extraction and dewaxing of lubricating oils. Test runs on the new combination unit, largest of its kind in existance, have been carried out satisfactorily. The longest to date was of 50 days duration.

The two solvent units now under construction mark the second major addition of this sort at the Beaumont plant. Late in 1934 a 2,000-bbl. Duo-Sol unit was placed in operation. The solvent extraction unit now being added is the type employing furfural, similar to those recently placed in operation in the Texas Co. and Gulf Oil Co. refineries in Port Arthur. The Magnolia unit will have a capacity of 2,000 bbls. The dewaxing plant will utilize methylethyl ketone and benzol, and will follow the design of the new unit at the Gulf refinery at Port Arthur. It will be capable of handling 3,200 bbls. of charging stock per day. Construction of these two units is under contract let to Lummus Co., and will be completed by October.

As a part of a $1,000,000 to $1,500,000 modernization program at its Smiths Bluff refinery, Pure Oil Co. is now adding a new 10,000-bbl. topping unit. The furnace and tower are of latest design, under construction by Lummus Co. Initial operation is expected by September. Plans call for new equipment to practically double the capacity of the Smiths Bluff refinery, included in a widespread construction schedule which Pure is carrying out at its refineries this year.

While no construction of major importance is being carried out at present in the other large refineries of the Sabine area, they are operating new units recently completed. Outstanding are the furfural extraction units of Gulf Oil Corp. and Texas Co. at Port Arthur, the ketone dewaxing unit and remodeled skimming and cracking units at the Port Arthur Gulf plant, and the new asphalt units recently installed at the Port Neches Plant of Texas Co.

Having placed a 10,500-bbl. reforming unit on stream in April, at its Houston refinery, Shell Petroleum Corp. is now contemplating the construction of a 20,000-bbl. combination topping, cracking and reforming unit, including a vacuum rerun unit. This addition will raise the total capacity of the Shell refinery to 76,000 bbls. per day. Now under construction at the plant are eleven 118,000-bbl. storage tanks, to be used in conjunction with the plant and deep water terminal at the adjacent Houston Ship Channel. Contingent upon the installation of the 20,000-bbl. combination unit, the company plans to add another oil dock at its loading terminal which will then provide berthage for four tankers.

The most extensive construction program under way at present in that area is the doubling of capacity at the Pan American Refining Corp. plant at Texas City. In addition to the installation of a 25,000-bbl. combination unit, similar to that now in operation at Texas City, work is progressing on a catalytic polymerization unit which will be capable of processing 24,000,000 feet of gas per day.

Much of the steel equipment, including fractionating towers, reaction chambers, furnaces and auxiliary installations, is being erected at present, and the new units are rapidly taking shape. Completion for initial operation is expected at the latter part of the year. Pan American and Shell, both newcomers to the Gulf Coast, are the most active in expansion of their refining facilities in that district.

Another new company to build in the Texas City area is Southport Petroleum Co., which acquired the property of Sinclair Refining Co., where the old Pierce plant and terminal formerly were located. Under construction at this site, and ready for operation in August, is a 5,000-bbl. crude cracking unit, licensed under Donnelly Process

(Continued on Page 62)

Governors of Oil States Are Hopeful of Results From the Interstate Compact

The Interstate Oil Compact Commission will meet at the Baker Hotel, Dallas, Friday, July 31. It is believed in the oil industry that the committees appointed at the meeting of the commission last March have had ample time to make conclusive reports and definite constructive action by the commission at this meeting is expected.

Continuation of the compact will be one of the principal problems discussed, Governor E. W. Marland of Oklahoma said Saturday.

Reports are to be heard from the committees on conservation laws, coordination of production and consumption.

"Other states may have special plans to bring up, and the addition of new divisions or functions to the compact machinery may also be discussed," the governor said.

"The compact expires in September, 1937, unless resubmitted to the legislatures of the states, and reratified by those bodies and by congress. This will be one important subject to start this work. A year of operating under the compact has shown its usefulness and its ability to produce a stable situation in the oil industry."

A number of other states besides those which joined the compact are expected to be represented, the governor said.

"I hope Governor Landon of Kansas is there," Mr. Marland said of the Republican presidential nominee. "He spoke very favorably of the compact in his speech accepting the presidential nomination."

The compact states are Oklahoma, Colorado, Texas, New Mexico, Illinois and Kansas. Efforts have been made to draw in Ohio, Wyoming, Louisiana, Arkansas, Michigan, Pennsylvania and California.

The states now joined in the agreement, it has been estimated, represent 65 per cent of production. It is expected, Tom Anglin said, that there will be about 15 noncompacting states attending including California, Kentucky, Tennessee, Arkansas, Louisiana, Pennsylvania, Arizona and Michigan.

GOVERNOR LANDON, KANSAS

In his speech accepting the Republican nomination for president, Governor Alfred M. Landon said:

"As a small independent oil producer, I saw my industry ask for federal regulation because of a selfish exploitation of a natural resource, which, once wasted, cannot be replaced. When federal regulation failed, the industry made progress in the solution of the problem, by turning to state action, supplemented with interstate compacts as provided by the amazing foresight of the makers of the constitution."

In a statement by Homer Hoch, chairman of the Kansas State Corporation Commission, the governor's spokesman said:

"So far as our attitude is concerned, we have never lost sight of the fact that any supervision the state exercises over the oil industry is one of conservation. It is fundamentally necessary to conserve our national resources.

"We don't look on proration as simply a means of helping the oil industry, although that is desirable. We look upon proration as a sound policy in the public interest for the purpose of conserving the great national resources.

"We believe wasteful production is not only bad economically for the oil industry but would be a detrimental practice which ultimately would be harmful to the general public. We believe that any unnecessary storage above ground is a wasteful practice and that true conservation requires storage within the natural reservoirs except where the reasonable market demands call for taking it from these reservoirs."

GOVERNOR TINGLEY, NEW MEXICO

Replying to a query from The Oil and Gas Journal, Governor Clyde Tingley of New Mexico, wrote:

"I feel that the Interstate Oil Compact has been of considerable value to the compacting states and to the oil industry in general. The attainments to date are particularly notable in view of the limited authority vested in the compact."

GOVERNOR McNUTT, INDIANA

Governor Paul V. McNutt of Indiana, wrote:

"Although the production of crude oil in the state of Indiana is comparatively small, Indiana is grateful for the work of the Interstate Oil Compact.

"This state is in complete accord with the principles and provisions of the compact in its efforts to stabilize the petroleum industry and to maintain a market for all crude oil at a fair price. It is only through the proration of the large western fields that Indiana operators are provided with a market, since all of our state wells come under the stripper classification."

GOVERNOR FUTRELL, ARKANSAS

Governor J. M. Futrell of Arkansas, says:

"Conservation of the states' natural resources is the sensible thing. In this respect, most of the states, if they could retrace their steps in the light of experience, would avoid many mistakes. We would not pursue a course of destruction as we have done. The wisdom of conserving the oil supply cannot be doubted for a moment. This can best be brought about by the cooperation of the oil producing states. This should be done."

GOVERNOR MILLER, WYOMING

Governor Leslie A. Miller of Wyoming, writes:

"There has been little discussion of the proposal of this state by reason of the fact that we have no serious problem of overproduction. The legislature of 1933 had before it a measure authorizing state officials to enter into such a compact, but it was defeated. What a future session would do with a similar measure, I am not, of course, in a position to say. I can, however, say that generally speaking the administrative officials of Wyoming favor the idea of such a compact and we have had a representative at some of the meetings between the signatory states which have been held in Oklahoma. Moreover, we have requested that we be kept advised as to developments from time to time."

GOVERNOR McALISTER, TENNESSEE

Governor Hill McAlister of Tennessee replied:

"The legislature of Tennessee will not meet until January, 1937, which is the earliest time on which action by Tennessee can be taken relative to the Interstate Oil Compact heretofore authorized by congress. This subject will be dealt with by my successor in office at that time."

OBITUARIES

ROBERT J. SHARPE, 62, Tulsa, manager for General American Tank Car Corp., died Monday at Palmer Lake, Colo. He was a charter member of the Petroleum Club, now Tulsa Club.

JOSEPH O. CLARK died July 21 at his summer home in Indiana County, Pennsylvania. He was president of Royal Oil & Gas Corp., successor to Laurel Oil & Gas Co.

H. KISHI, Beaumont, Tex., oil operator and native of Japan, died July 20 from injuries in an automobile accident near Liberty. A brother, K. Kishi, of Terry, hurt in the accident, is in a critical condition in a Liberty hospital.

LUTHER BURDICK WEIDLEIN, 55, sales manager, Arthur G. McKee & Co., died at his summer home, North Kingsville, O., July 20, after a long illness. He was graduated from Carnegie Institute of Technology in 1909 and was for several years with Carnegie Steel Co. at Youngstown.

States May Accept Bureau Increase in Allowables

At a meeting in Tulsa on Monday of the members of the allocation committee acting for the operators of Oklahoma it was decided to recommend to the conservation officers for the Oklahoma Corporation Commission that the state's allowable for August be set at the figures recommended by the U. S. Bureau of Mines. This would make the allowable for Oklahoma in August 575,500 bbls. per day. It is understood that the Kansas allowable will also be as recommended by U. S. Bureau of Mines or 166,500 bbls. per day. Each allowable must be confirmed at a meeting with the conservation officers for each state but it now seems assured that these allowables will be officially accepted. It is probable that Texas and New Mexico will also put into effect the Bureau of Mines recommendations which are for August 1,154,700 bbls. for Texas and 70,100 bbls. for New Mexico.

These allowables are all increases over the July figures and have been raised because of the present demand for crude oil. The U. S. Bureau of Mines recommendations were published on page 30 of The Oil and Gas Journal of July 23.

Federal Oil Taxes

WASHINGTON, D. C., July 27.—The treasury department announced that gasoline yielded the government $17,762,282 in internal revenue taxes in June, a gain of $2,650,000 over June, 1935.

The monthly comparative statement of collections showed last month's gasoline total ranked fourth in all classifications, being surpassed only by income taxes, fermented malt liquors and cigarets.

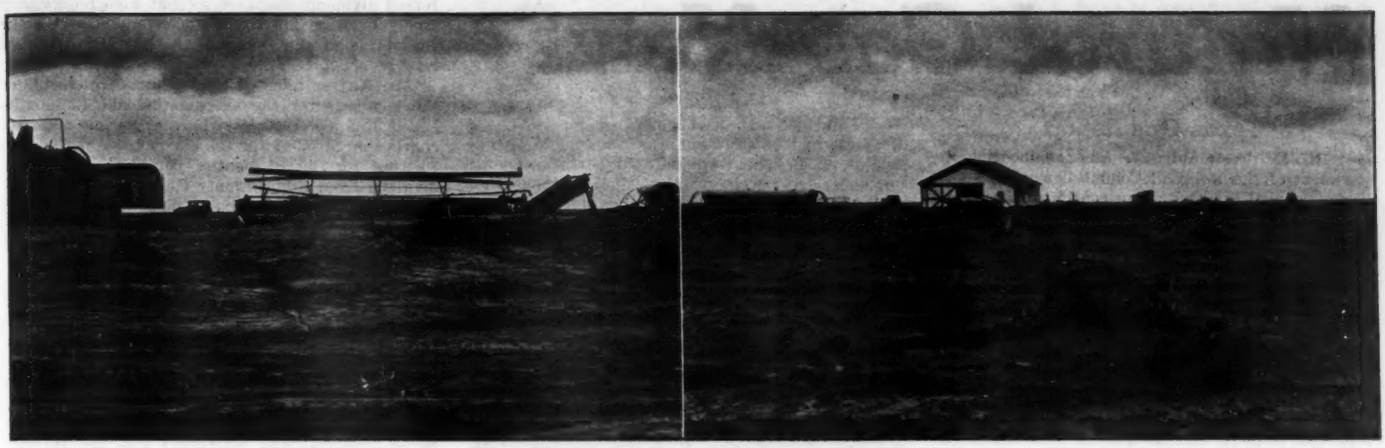
Other comparative collections for June, 1936, and June, 1935:

Lubricating oils, $3,258,687.06 and $3,676,357.75. Transportation of oil by pipe line, $928,015.71 and $880,973.42.

Crude petroleum processed, etc., $79,212.06 and $152,481.46.

Louisiana Lube Tax

A bill levying a tax on all lubricating oils "sold, used, or consumed in the state of Louisiana" equal to 20 per cent of the wholesale price, has been signed by the governor of Louisiana. Both houses passed H.B. No. 133, which imposes a refining tax of 1 cent a barrel, and H.B. No. 284, which fixes a tax of 1 per cent on natural gas sales. Another bill signed by the governor fixes the rate of severance tax of three-tenths cent per thousand feet on natural gas.



Drouth Is Widespread, But Marketers Need Not Reach for Red Ink Yet

By T. F. SMILEY

What about this drouth? Is it having a blighting effect on sales of gasoline and other oil products? If it has not yet implanted a dent in the market, is it going to later?

Although grasshoppers, fiery temperatures and dearth of rain have carried loss and lower buying power to various agricultural areas, a survey conducted by The Oil and Gas Journal in the past week indicates oil refiners and marketers need not reach for the red ink yet. The law of compensation keeps right on working, even in a drouth. And anyway some of the mathematics employed in efforts to portray the ruinous character of the current arid spell reveals a decided tendency to skid. A state official of South Dakota, for instance, estimates the crop damage in his state at $140,000,000, "exclusive of livestock losses due to forced shipments." But the whole cash income from all farm crop and livestock sales in South Dakota in 1935 was only $77,536,000.

If the drouth of 1936 has any hurtful effect on the oil industry—and nobody is disposed to contend that it will not—it will be chiefly because it diminishes the ability of drouth victims to buy gasoline and other petroleum products. But several considerations must be taken into account in arriving at even such estimates as are possible.

One is the propensity to exaggerate. Kansas is referred to as the center of the nation's heat-stricken area, in which conditions are compared to those of 1934. In that year the country experienced probably the most severe drouth in its history. Newspapers published gloomy descriptions of suffering and loss in the Sunflower State. One New York newspaper, with a staff man on the ground, said Kansas was "burned dry." Nevertheless, Kansas farmers received in cash for their crop and livestock sales during the drouth-afflicted year from August, 1934, to July, 1935, $216,000,000 (exclusive of government benefit payments), compared with $179,000,000 in the preceding 12 months.

An official estimate of the drouth loss in the entire country issued from Washington in August, 1935, and covering the period already referred to (August, 1934, to July, 1935), placed it at about $5,000,000,000. But in the same 12 months farmers received for crop and livestock about 15 per cent more than they had in the preceding year. Government benefits are not included in these figures.

Another fact to be considered is that few of the drouth-ridden areas place their whole reliance upon one crop. The Southwest, for example, does not need all the pity accorded it. A big cotton crop is said to be assured, and big bottom-land wheat crops already have been harvested. The main crops in Iowa are wheat, oats, corn and hay. Available information reveals no year in which all four crops were failures; but most of the conversation and news reports are about the crop that fails, not the one that does well.

An important fact to be considered is that normal sales of gasoline and other oil products are heaviest in the urban centers and lightest in the regions which feel the effects of the drouth most intensely. Nine of the densely populated states consume more gasoline than all the rest of the states combined.

MAY GET MORE CASH FOR SHORT CROP

It should be borne in mind that the farmers of this country usually receive a larger net cash income in years of short crops than they do in years of bumper crops. There have been nine serious crop failures since 1880, not counting 1936. In six of these years the higher prices more than made up for the small yield.

The farmer who really has suffered loss from the drouth is not going to be left to fight it out alone. Government aid, spread with lavish hand in the last two years, is to be extended to him it appears, for a federal drouth-area committee has been appointed to study the situation. And relief money is accepted at the filling station as readily as any other kind.

Let us see what the oil marketers themselves say:

G. A. PRIMM, secretary Illinois Petroleum Marketers Association.—Doubts that the drouth in Illinois will have any serious effects on the consumption of petroleum products throughout the year. The winter wheat crop obtained good prices. The poor corn crop will have some effect.

C. H. FOSTER, secretary Colorado Petroleum Marketers Association.—Drouth conditions have had no effect at all upon the consumption of gasoline in Denver vicinity. On the dry lands of Eastern Colorado there will be perhaps 10 per cent less gasoline used.

J. J. ROSENTHAL, executive secretary Retail Gasoline Dealers Association of Michigan, Inc.—The drouth has had no apparent effect on the petroleum industry in Michigan. Believes that over the remainder of the year consumption of gasoline and other petroleum products will be increased.

M. L. LONG, secretary Iowa Petroleum Association.—The drouth has affected consumption of gasoline and other petroleum products. The wheat and oats crops have been the best in years. The corn crop will be short. Believes the fall consumption of petroleum products will compare favorably with that of 1935.

C. E. HOLMES, secretary Kansas Oil Men's Association.—Consumption of gasoline and other petroleum products has decreased in farm areas from 10 per cent in the eastern part of the state to 50 per cent in the western. Tourist trade has offset this decrease and most marketers report better gallonage than last year. If the drouth continues, it will cut consumption of oil products used in farm equipment 50 per cent.

HERBERT L. CLAY, secretary Kentucky Petroleum Marketers Association.—Inclined to the belief drouth conditions will have considerable effect, particularly on the use of tractor fuels and lubricants. Expects slight decline in gasoline consumption.

ROBERT A. WARFEL, executive secretary Ohio Petroleum Marketers Association.—It is not expected the drouth will have much, if any, effect on the consumption of petroleum products. An estimate by the state secretary of agriculture is that there will be a 60 per cent crop as compared with last year, when the crop was unusually large. Because of this reduction in crop it is expected prices will be higher.

J. R. ATCHISON, secretary Oklahoma Oil Marketers.—The drouth so far will not seriously affect consumption if rains in the near future enable farmers to resume field work, breaking stubble ground, etc. Prospects still good for an excellent yield of cotton. Each month this year total consumption of gasoline and oil on the increase.

H. L. PRESHOLDT, Old Colony Gas & Oil Co.—Sale of gasoline and any other products maintained at unusually high level. Not apparent yet that the drouth has had any unfavorable effect on retail business.

FRANK R. THOMPSON, South Carolina Oil Jobbers Association.—Loss suffered because of the drouth is less than the increase this year over the same period last year. Therefore, the net result is still a gain. No further decrease in consumption of gasoline and other oil products expected, because higher prices which farmers will receive for crops should offset loss in yield.

Natural Gas News

Texas Gas Report

AUSTIN, Tex., July 27.—The engineering department of the Railroad Commission reports that Texas natural gas production continued a seasonal decline during May.

The average decrease was 7.7 per cent while in the Panhandle, which serves out-of-state markets, it was 8.5 per cent.

Total withdrawals were 1,402,931,000 feet daily, compared with 1,520,516,000 in April. Panhandle withdrawals were 1,081,949,000 against April production of 1,181,874,000.

Of the total production, 68.2 per cent was used for light and fuel purposes, .5 per cent was repressured, 1.3 per cent was utilized for lifting, 3 per cent was stripped and the residue was discharged into the air, 26.5 per cent was stripped and the residue was sold and 6 per cent was used for miscellaneous lease operations.

The department reported the increasing capacity of carbon black plants was raising the demand for sour gas, of which 421,990,000 feet was consumed daily.

"The decrease in the volume of dry natural gas processed in gasoline plants has been in part offset by an increase in the consumption of casinghead gas," it said. "In almost all the districts there has in the past few months been an increase in the number of wells producing casinghead gas which have been connected to gasoline plants."

The daily volume of gas blown into the air from gasoline plants amounted to 117,396,000 feet for the Panhandle and 214,247,000 for the state.

Michigan Commission Sued

MUSKEGON, Mich., July 27.—Michigan Public Utilities Commission was put on the defensive last week in the fight over whether Grand Rapids shall have 50-50 natural and manufactured gas or 100 per cent natural fuel. Two suits were filed, one by the Grand Rapids Gas Light Co., which recently completed a 45-mile pipe line from tri-townships field, Central Michigan, to Grand Rapids and by the city commission against the state commission for an order to show cause why the city should not be granted 100 per cent natural gas.

The Grand Rapids company two weeks ago turned full natural gas into its lines and proceeded to change over customer equipment. State commission officials have been ordered to appear before Circuit Judge Charles H. Hayden, Lansing, Monday, August 3, to show cause why a temporary restraining order should not be made permanent.

Grand Rapids interests charge discrimination in permitting 100 per cent natural gas to Lansing through a new Consumers Power Co. line from the same field. The Grand Rapids company claims sufficient reserves under contract to warrant full natural gas service.

Natural Gas Conference

BRANTFORD, Ontario, July 25.—At a conference here recently, representatives of Southwestern Ontario communities served by the Southern Ontario Gas Co. decided to ask a reduction of gas rates to 65 cents per 1,000 feet to all users of 5,000 feet a month or less, with special consideration for communities in the actual producing areas.

New O.N.G. Secretary

Fred W. Peters has been promoted to the post of secretary-treasurer of Oklahoma Natural Gas Co., succeeding John Mitchell, resigned, by the board of directors. Mr. Peters has served as controller of the company four years.

Wainwright Gas Franchise

EDMONTON, Alberta, July 25.—Mr. Justice Ford of the Alberta Supreme Court has handed down a ruling on questions referred to him by the town of Wainwright and the Wainwright Gas Co. in relation to the town's natural gas franchise. The franchise agreement, entered into July 22, 1925, expired in 1935, but was renewed to December 31, 1936. The town refused further renewal but suggested purchase of the distributing system and equipment, but not the 8-mile transmission line from Fabyan; while the company contended the town was obligated to buy the entire plant if it did not renew the agreement.

Justice Ford finds that the town has the right to renew the agreement, to buy the plant or install its own system, but is under no obligation to buy the company's system. The parties could ask the Alberta Public Utilities Commission to set a price, but the town in that event must first agree to take over the plant, including the transmission line, at the price set. The judge rejected the company's contention that it held a 10-year exclusive franchise and thereafter a non-exclusive franchise for an indefinite period.

El Paso Gas Co.

El Paso Natural Gas Co. declared a dividend of $26.25 a share on the preferred stock of the company, clearing up all arrears on the outstanding issue, and resumed quarterly payments.

Paul Kayser, president, made the following statement:

"These dividends are declared at this time because they are justified by both the current earnings of the company and its cash position, and because in fairness to the holders of the old debentures called for redemption on August 11, we thought that the preferred dividends in arrears should be cleared out of the way and current preferred dividends declared so that such holder may freely exercise his right of conversion and know the status of the stock into which his debenture may be converted."

Mr. Kayser released the earnings statements of the company for the six months and 12 months ended June 30, 1936, showing net income after all charges of $473,941 for the six months' period and $602,964 for the 12 months' period, not including dividend from Eddy County Gas Co. of $45,550 received as part of refinancing plan during the half-year period.

Canadian Gas Production

OTTAWA, Ontario, July 25.—Natural gas production from all Canadian fields in April totaled 2,297,181,000 feet against 2,838,626,000 feet in March and 2,281,805,000 feet in April, 1935. During the first four months of 1936 the output was recorded at 12,646,781,000 feet compared with 11,094,746,000 feet in the same period last year. Mixed (natural and artificial) gas imports into Canada in April amounted to 9,685,000 feet worth $6,205 against 18,079,000 feet worth $11,237 in March.

Gas for Athens, Texas

FORT WORTH, Tex., July 28.—Athens Natural Gas Co., headed by Clint W. Murchison, president of American Liberty Oil Co., has been granted a charter by Texas and a permit by Athens to lay gas mains in the city. The company will lay 17 miles of line from the Cayuga field in northwest Anderson and southwest Henderson Counties to serve the city with gas for industrial and commercial purposes. Wells controlled by Murchison and associates will supply most of the gas for the new line. Lone Star Gas Co. has a large line out of the field connecting with Dallas. Survey is now being made for the new line.

Refinery Projects

Cracking Process Agreement

NEW YORK, July 28.—Gasoline Products Co. and Donnelly Process Corp. announce that they have entered into a cross license agreement and settlement under which each party has a right to extend to its present and future licensees a license under the cracking patent rights of both parties. The Donnelly Process Corp. has been an early advocate of the so-called "Coil and Quench" type of cracking operation, and its licensees, in carrying out the process under the Donnelly patents, have utilized clean circulation and numerous other inventions covered by patents owned, or being licensed, by the Gasoline Products Co.

It is understood that this settlement probably will result in the dismissal of a large number of patent infringement suits, and it is believed that it constitutes a step in simplifying and clarifying the cracking patent situation. The cross licensing arrangement makes available to a large number of refiners operating under Donnelly licenses the greater freedom in their cracking operations which has been enjoyed by the licensees of the Gasoline Products Co. in the past.

Complete Lubricating Oil Plant

FINDLAY, Ohio, July 27.—Construction of a lubricating oil refinery at Blue Pigeon, near here, is completed and additional plans for the building of a complete chemical compounding plant are under consideration. The plant is operated by the H. A. Montgomery Co., of Detroit, Mich., with Bert R. Miller as superintendent, and R. P. Crothers as chief engineer.

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EL DORADO, KANSAS, REFINERY EXECUTIVES

Photograph taken at the refinery of the Skelly Oil Co., El Dorado, Kansas; right to left: K. J. Smith, superintendent; H. V. Smith, assistant superintendent; E. A. Todd, chief chemist; R. W. Leslie, in charge of research department; C. E. Gore, assistant superintendent in charge of lubricating oil department; A. Ayvazian, research engineer.

Pipe Line Activity

Penn-York Gas Line

NEW YORK, July 27.—Expenditure of $1,500,000 for a combination 8- and 10-inch natural gas line from Potter County, Pennsylvania, via Dunkirk and Batavia to Arcade, N. Y., was authorized by the Penn-York Natural Gas Corp. Two Tulsa pipe line construction contracting firms, Sheehan Brothers and Williams Brothers have been notified of their successful bids for building the 140 miles of pipe line with work to start about August 1.

Republic Steel Corp. has been awarded the contract to furnish about 60 miles of 10-inch line pipe and the 80 miles of 8-inch tubular material was purchased from A. O. Smith Corp. Completion of the line, which will have capacity of 10,000,000 to 20,000,000 feet per day, depending on demand and station facilities utilized, is due for completion about October 1.

Sun Gasoline Line

PHILADELPHIA, Pa., July 27.—The Sun Oil Co.'s new gasoline line will be 8-inch welded, 114 miles long, extending from Marcushook, Pa., to the Sun terminal on the Passaic River at Newark, N. J. It will cross the Delaware River 1½ miles below Washington crossing and just above Trenton. The line is being constructed by Mitchell Stewart Construction Co. of Dallas, Tex., the pipe from Jones & Laughlin, Pittsburgh, Pa. The part of the line in Pennsylvania is being constructed for the Susquehanna Pipe Line, and the part in New Jersey for the Middlesex Pipe Line.

Keystone Extension

PHILADELPHIA, July 27.—The Keystone Pipe Line Co. has asked the Public Service Commission to approve its plan to extend present lines through parts of eight counties, across central Pennsylvania.

Russell Wolfe, examiner for the commission, was told the line would be an extension of the system operated now from Philadelphia by the company, carrying refined petroleum products into the Reading, Pittsburgh and Williamsport areas.

Reconditioning Line

SHREVEPORT, La., July 27.—Gulf Refining Co. has started work on reconditioning the 8-inch line from the Perry tank farm on the Calion highway northeast of El Dorado to Dubberly, La. The line is 62 miles in length.

Reconditioning work is under supervision of Ray Crisman, foreman. J. A. Carnahan is pipe line superintendent of this district.

Work on the line which consists of cleaning and treating the pipe and welding loose joints or holes in the pipe will take about six weeks.

Teapot Line Reconditioning

The reconditioning of the old pipe line from Teapot, Wyo., to Freeman, Mo., subleased since 1931 to gas companies, by Stanolind Pipe Line Co., is progressing. The line is to be used to move 12,000,000 bbls. of stored oil from Clayton, Wyo., to the company's main line in Missouri.

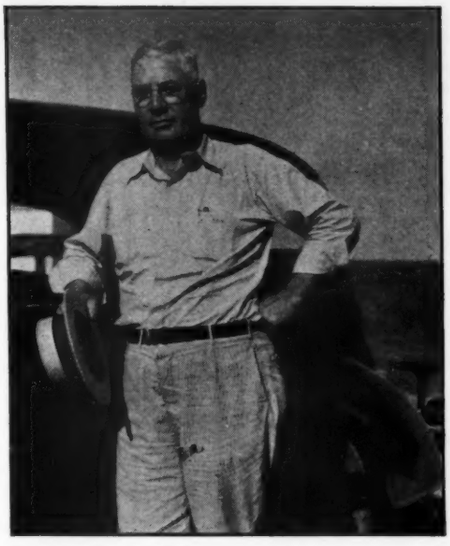
Testing and reconstruction of the line will be finished about the first of November.

White Eagle Gasoline Line

The entire 178-mile gasoline line being laid by Williams Brothers, Tulsa, between Augusta and Kansas City, Kans., for the White Eagle division of Socony-Vacuum Oil Co. is to be Linde welded.

N. Y.-Pennsylvania Gas Line

HARRISBURG, Pa., July 27.—Approval of an amendment to its charter to permit extension of its pipe lines was asked by Peoples Natural Gas Co. in a petition to the Public Service Commission. The new system would cross Clarion County, Jefferson County, the Clarion River, Elk County, Sergeant, Norwich and Liberty Townships, in McKean County; pass near Port Allegany and through Pleasant Valley and Clara Townships in Potter County, to a terminus in the Hebron gas field. The company states that it wishes to reach new gas reserves in order to conserve its present supply in southwestern Pennsylvania.



E. V. Kile, superintendent, Standish Pipe Line Co., Eureka, Kans.

Lake Pauline Line

QUANAH, Tex., July 27.—Construction of the gas line from the Texas Co. gasoline plant in Foard County to the West Texas Utilities power plant at Lake Pauline near Quanah has progressed to a point 5 miles south of Pease River. It is to be completed in about 35 days.

Start on Kansas Line

Contract for 30 miles of 6-inch oil line has been awarded to Osage Construction Co. by Stanolind Pipe Line Co. from the Fairport pool in Russell County to Ellis and Rooks Counties will be oxyacetylene welded by the Lindeweld method. Construction is to start at once.

Safety Trophy Offered

NEW YORK, July 25.—C. W. Hadley, retired chairman of the Socony-Vacuum Oil Co., manufacturing committee, has offered a trophy as a prize in continuous safety competition among men who have completed 40 years and more of service in the company's eastern plants. The trophy, consisting of a bronze flying horse mounted on an oil barrel and in turn on a large bronze base, is to be known as the Hadley trophy in honor of the late Thomas W. Hadley, father of the donor, who completed 50 years of service with the company. Competition for the trophy is part of the company's national program for promotion of safety.

Nunn Joins Indiana

Edward G. Seubert, president of Standard Oil Co. of Indiana, has announced appointment of Wesley I. Nunn of Ponca City, Okla., as advertising manager for the company to succeed A. N. Steele, resigned. He assumed his duties on July 27.

Natural Gasoline

Louisiana's New Law

The provision with respect to the construction of natural gasoline and carbon black plants in the new Louisiana conservation law follows:

"In order to prevent waste of natural gas, or other minerals, the commissioner of conservation of the state of Louisiana shall have authority to grant to bona fide applicants permits for the building and operation of plants and to burn natural gas into carbon black for such period of time as may be fixed by the commissioner in such permit, not to exceed 25 years, and subject at all times to the provisions of law and rules and regulations of the Department of Conservation; and it shall be a violation of this act for any person, firm or corporation to build or operate any such new plant without the permit above provided."

New Absorption Plant

CALGARY, Alberta, July 25.—Formal opening of the new gasoline absorption plant of the British-American Oil Co. in South Turner Valley took place this week. F. A. Gaby, vice president, and L. E. Woolley, manager of refineries, from Toronto, were present. The plant has a daily capacity of 60,000,000 feet of tail gas, and is the fourth absorption plant in the Turner Valley field.

Plant Nearing Completion

SHREVEPORT, La., July 27.—Construction of the Glen Rose Gasoline Co.'s plant, NW SW section 13-23-16, is nearing completion and operations are expected to begin about August 1. The plant, which is in the Rodessa field will have a daily capacity of 15,000,000 feet of gas and is expected to produce 15,000 gallons of natural daily when operating at full capacity.

Increasing Plant Capacity

SHREVEPORT, La., July 27.—United Gas Corp. is installing an 8,000-horsepower compressor station at its Rodessa gasoline plant and other work which will enlarge the capacity of the plant from 8,500 gallons to approximately 150,000 gallons daily.

The company has also started construction of a gas gathering system in the Rodessa field to transport natural gas to the plant. It is also laying a 20-mile, 18-inch gas line from the gas-producing section of the Rodessa field to the United Gas main line south of the field. This line parallels the company's other two lines.

Work was also started last week on a 25-mile loop, gas pipe line from Baton Rouge to New Orleans which is operated by United Gas Public Service, a subsidiary pipe line system in Coastal Louisiana. The size of the line will be 16 inches.

Total cost of the above projects is estimated at $2,500,000.

St. Thomas Franchise

ST. THOMAS, Ontario, July 25.—The St. Thomas city council is considering an offer from the Dominion Natural Gas Co. of $152,650 for the municipal gas distributing system, exclusive of the artificial gas plant. The purchase is conditional on the granting to the company of a 10-year natural gas franchise, with option of renewal by either party.

Louisiana New Oil Conservation Law Begins Test of Actual Operation

By MITCHELL TUCKER

SHREVEPORT, La., July 27.—Louisiana's new minerals conservation law, known as Act 225, will become operative tomorrow. There is considerable speculation as to the workings of this proration law, especially with regard to allocation of production at Rodessa.

By the terms of the act, its purpose is . . . "To conserve the oil, gas and sulfur resources of the state of Louisiana; to prevent waste and depletion thereof; to prevent production in excess of the reasonable market demand; defining the powers and duties of the Department of Conservation; authorizing the commissioner of conservation to prescribe rules, regulations and orders, and to conduct hearings for the enforcement of the act; and providing penalties for violations thereof; and to repeal all laws in conflict therewith."

This statute is closely patterned after the oil and gas conservation law of the state of New Mexico, as given in Chapter 72 of the 1935 Session Laws of that state. In many instances definitions and provisions followed the New Mexico law word for word. In other instances provisions are borrowed from the Texas, Oklahoma, or Kansas proration laws. It is only reasonable to expect Louisiana will eventually have a thoroughly workable conservation statute if it profits from the laws of the neighboring states and picks from them provisions most applicable and just.

Naturally, Louisiana operators are first concerned with the effect this act will have on the allocation at Rodessa and other flush fields on the Louisiana Gulf Coast. At no place in the act is the commissioner of conservation empowered to allocate production on a per well basis, so some readjustment at Rodessa appears inevitable. The provisions of the act with respect to determining allowables is as follows:

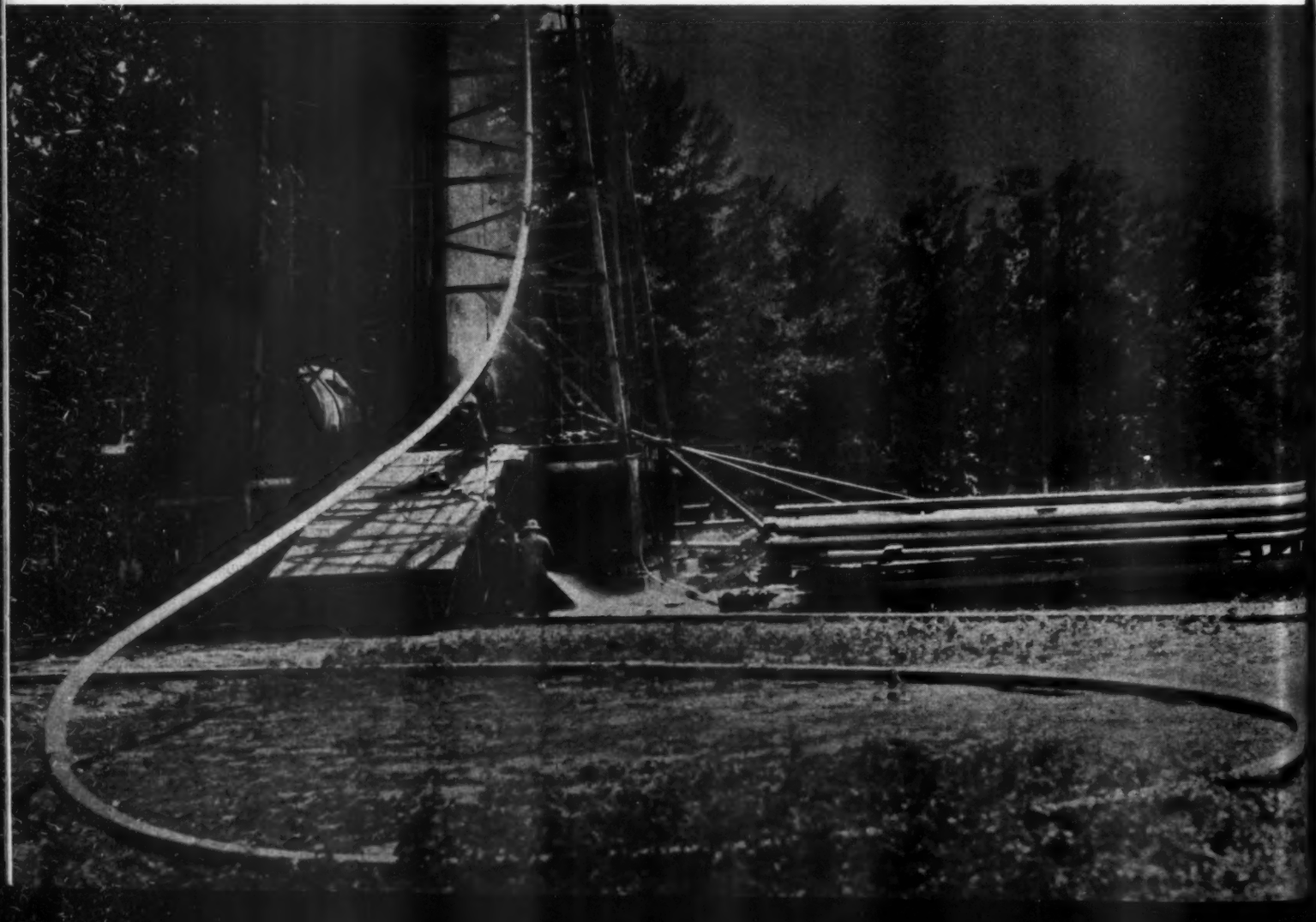
"The commissioner of conservation shall allocate, distribute or apportion the allowable production from such common source of supply among the various producers on a reasonable basis, and shall limit the production of each producer to the amount allocated or apportioned to such producer. Such allowable shall afford to the producer of each property in a common source of supply the opportunity to produce his just and equitable share of the oil and gas, so far as can be practically obtained without waste, and for this purpose to use his just and equitable share of the reservoir energy.

"The commissioner of conservation is authorized to ascertain the productivity of all property in a common source of supply for the purpose of fixing the allowable production as hereinabove provided, and in so doing shall give due consideration to the productivity of the wells located thereon, as determined by open flow tests, bottom-hole pressure tests, or any other practical method of testing wells, as well as surface acreage included in such common source of supply, and such other factors as may be pertinent thereto."

As provided in section 11, before any rule, regulation or order can be made under the provisions of this act, public hearings must be held where any person having an interest in the subject matter of the hearing may be heard. Therefore, until such hearings are held on the allocation of production in the flush fields, the effect of the act in this respect remains somewhat problematical. Hearings are expected to be held soon after the act becomes effective.

The question arises whether the commissioner of conservation can penalize owners of wells already drilled upon small tracts by applying an acreage factor to their allocation. There has also been some question as to whether the powers of the commissioner are confiscatory in adjusting the

At Triangle Drilling Co. No. 1-E Skannal, Sligo gas field, Bossier Parish, Louisiana, 630 feet of 4½-inch drill pipe was thrown from the well, one end hanging over the crown block and the other going into the wooded section nearby. View shows gasser blowing wide open while workmen wet rig to prevent fire



allowables of wells drilled in anticipation of proration on a per well basis. It is the opinion of some of the leading oil and gas attorneys that, as interested parties are permitted a public hearing before orders of the commissioner can affect them, his powers are not confiscatory, and his orders, if applied within reason, will be sustained as proper police powers of the state. Further, it is their opinion that any adjustment of per well allowables under the act would not be retroactive upon the property rights of the lease holders, especially so if the adjustment is clearly made for the purpose of preventing waste and meeting reasonable market demands.

POLICE POWERS

It has long been recognized in most oil producing states that the police powers of the state extend to the conservation of its natural resources. Here is afforded the authority to regulate and prescribe methods for the extraction of oil and gas from a common pool, (1) to protect the public interest against waste of natural resources, or (2) to insure just distribution of property between the various tenants in common.

Heretofore the Louisiana Conservation Commission has not been adequately empowered to prevent the enormous waste of gas in certain fields. If the commissioner is now inclined to do so, he is granted sufficient power under this act, after public hearings, to prevent "underground waste." By the terms of the act, "underground waste shall be understood as those words are generally understood in the oil and mineral business, and in any event to embrace the inefficient, excessive, or improper use or dissipation of the reservoir energy, including gas energy and water drive, of any pool, and the locating, spacing, drilling, equipping, operating, or producing of any well or wells in a manner to reduce or tend to reduce the total quantity of crude petroleum oil, natural gas and sulfur, ultimately recoverable from any pool." Public hearings will define the scope of the commissioner's power in this respect.

CRITICISMS HEARD

This law has been the subject of considerable criticism because of the broad administrative and discretionary powers granted the commissioner. Some have gone so far as to say his powers are confiscatory and unconstitutional, while more conservative attorneys familiar with proration matters say the rights of property owners are preserved in the privilege to be heard before any orders affecting them become operative. In addition to the grants of administrative powers, the commissioner of conservation is empowered to adopt rules and regulations and to issue orders on the following matters:

1. Further defining and preventing underground and surface waste;

2. Requiring operators, drilling contractors, drillers and producers to keep records, including records of electrical surveys and logging, make reports, including a true copy of the record of any electrical survey or logging within 10 days after completion or abandonment of any wells, and to furnish such information as may be necessary for the proper enforcement of the act;

3. To fix the spacing of wells;

4. Providing for certificates of clearance and tenders to make effective the provisions of the act;

5. Preventing the drilling of more wells or more production operations than are reasonably necessary to drain oil and gas and sulfur from any common source of supply.

6. Permitting the pooling of properties for drilling or production if agreed upon, and if not agreed upon, to require pooling of properties in any case where the smallness or shape of a separately owned tract would, under the enforcement of a uniform spacing plan or proration unit, otherwise deprive or tend to deprive the owner of such tract of the opportunity to recover his just and equitable share of the crude oil, natural gas, and sulfur in the pool; provided, that the owner of any tract that is smaller than the drilling of production unit established for the field, shall not be deprived of the right to drill on and produce from such tract, if same can be done without waste; but in such case, the allowable production from such tract, as compared with the allowable production therefrom if such tract were a full unit, shall be in the ratio of such tract to the area of the full unit. All orders requiring such pooling shall be upon terms and conditions that are just and reasonable, and will afford to the owner of each tract in the pool the opportunity to recover or receive his just and equitable share of the oil, gas and sulfur, in the pool as above provided, so far as may be practicably recovered without waste. In the event such pooling is required, the costs of development and operation of the pooled unit shall be limited to the lowest actual expenditures required for such purpose, including a reasonable charge for supervision; and in any case of any dispute as to such costs, the commissioner of conservation shall determine the proper costs;

7. To require wells to be drilled, operated and produced in such manner as to prevent encroachment on or injury to neighboring leases or properties;

8. To require the operation of wells with efficient gas-oil ratios, to require installation and use of an approved device to lower gas-oil ratios to prevent waste, and to fix such ratios.

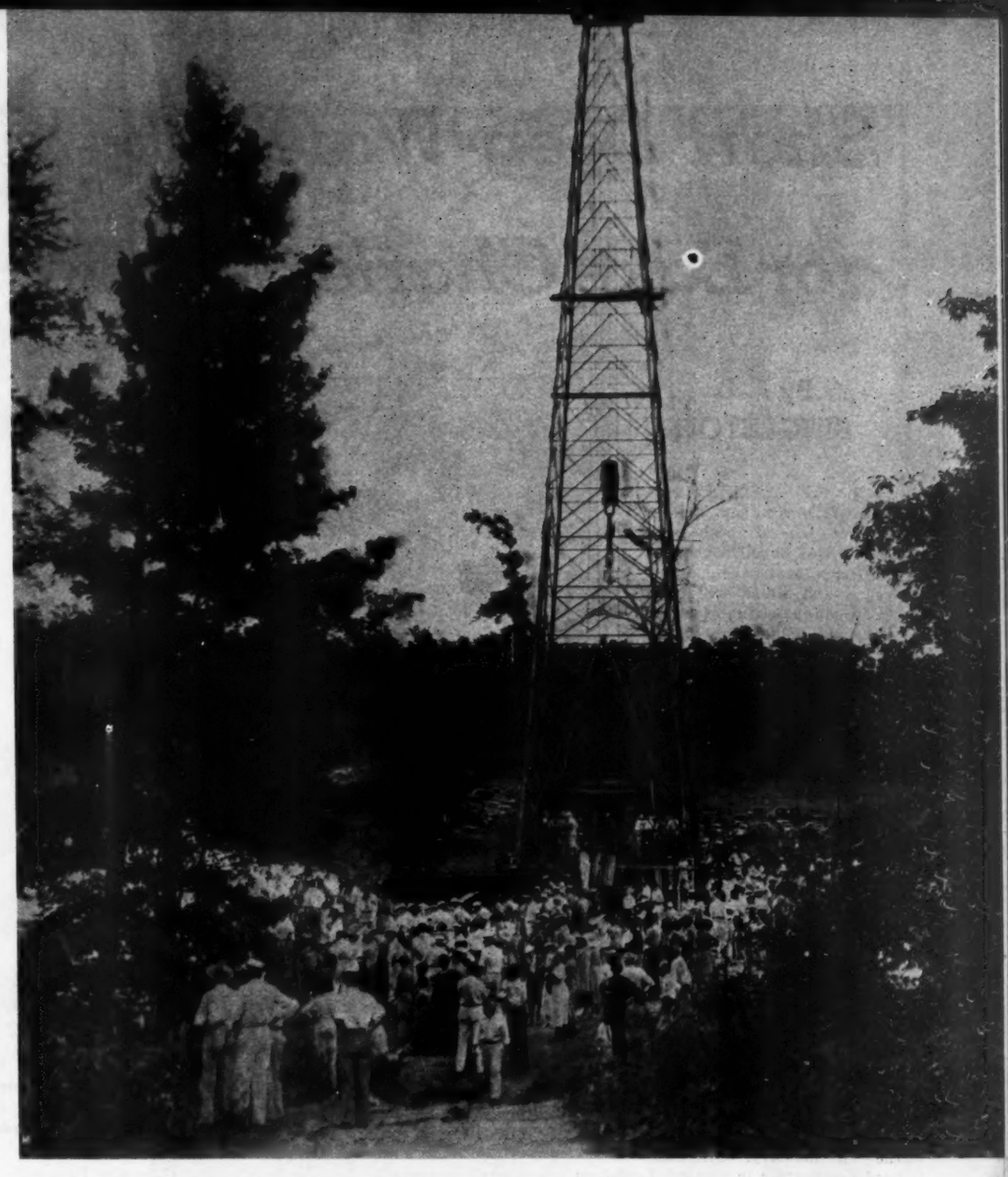
Points (1), (4) and (6) are in excess of the powers granted the Oil Conservation Commission of New Mexico.

Another essential difference between the Louisiana and New Mexico proration laws is that in Louisiana the commissioner of conservation, holding an appointive position, is granted these powers, while in New Mexico the Oil Conservation Commission, consisting of the governor, state geologist and commissioner of public lands, is so empowered.

Those who argue the unconstitutionality of Louisiana Act 225 should not overlook that somewhat similar proration laws have recently been held valid by the U. S. Supreme Court, when reasonably applied. Specific reference is made to the test of the California statute in the Bandini Petroleum Co. vs. Superior Court case, and the Champlin Oil & Refining Co. case from Oklahoma, both of which held the state proration laws valid.

It is further contended by some opponents of the act that if proved unconstitutional, Louisiana will be found without any control whatever over the proration of oil and gas. Such a possibility is clearly provided for in section 16 of the act, which recites: "If any part or parts of this act, or the application thereof to any person or circumstances, is held to be unconstitutional, such invalidity shall not affect the validity of the remaining portions of this act, or the application thereof to other persons or circumstances. The legislature hereby declares that it would have passed the remaining parts of this act if it had known that such part or parts thereof would be declared unconstitutional. This act shall be cumulative of and in addition to all the laws of the state which are not in direct conflict with the provisions hereof and shall not be deemed to repeal or affect other acts, except in so far as they are in conflict herewith."

It is the combined opinion of those oil and gas attorneys who followed the formulation and enactment of this statute that it is certainly a step forward from the previous incoherent Louisiana conservation laws, and after sufficient hearings have been held to clearly indicate the workings of the act, Louisiana will take its place among the neighboring states having adequate and equitable proration.

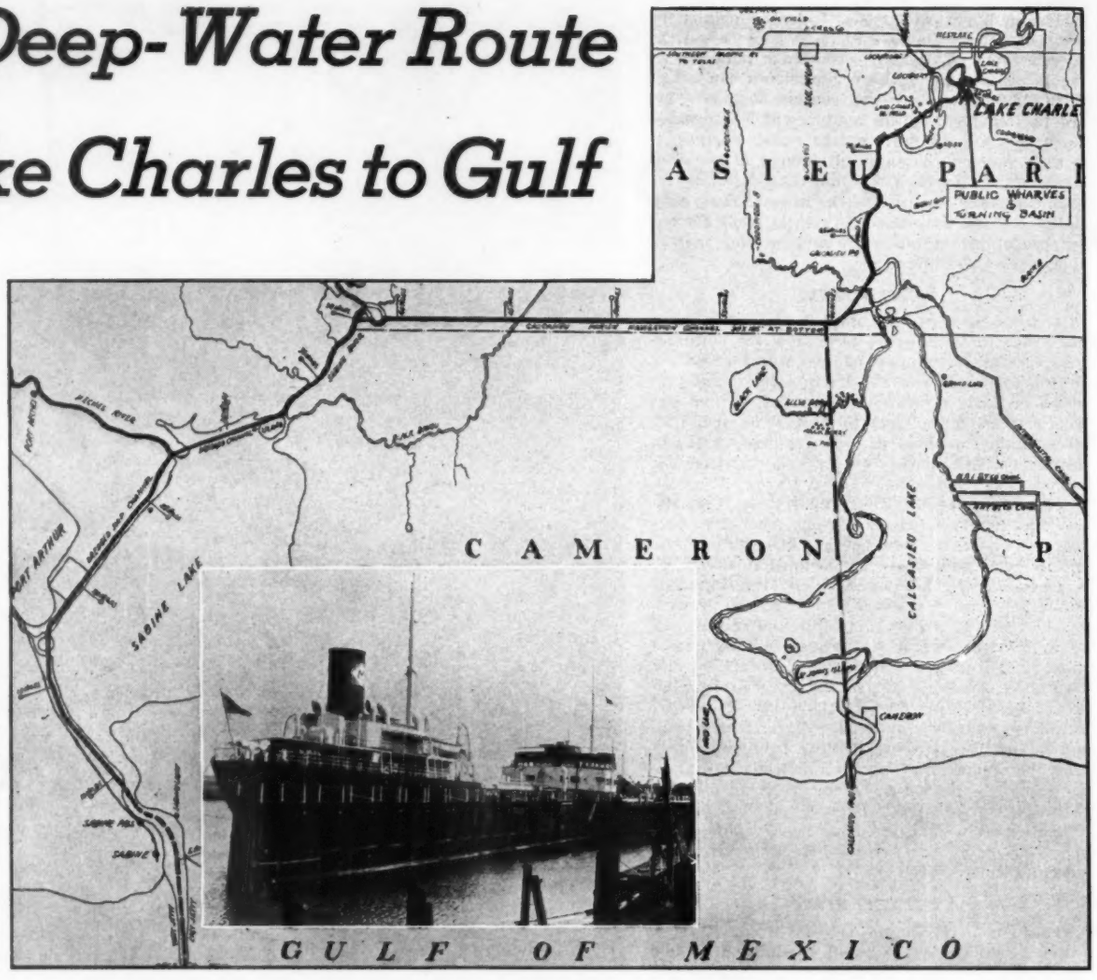


Crowd gathered for testing of North Louisiana latest discovery, Brown, Lide and Greer No. 1 Gardner, section 10-17-14, Lincoln Parish, an 80,000,000-foot wet gasser, total depth 6,576 feet

Short Deep-Water Route for Lake Charles to Gulf

By F. L. SINGLETON

LAKE CHARLES, La., July 27. — Another forward step in the advancement of the Port of Lake Charles, La., into one of national importance, and which will result in an annual saving of several thousand dollars to oil companies operating in Coastal Louisiana, is indicated by announcement of the construction of a 38-mile direct deep-water outlet from the port to the sea by way of Calcasieu Pass. This project has been under consideration for years and was recently endorsed by the National Rivers and Harbors Congress. The government has appropriated $50,000 for a survey of the proposed route and army engineers are expected to complete that work within eight and one-half months. All right of way has been obtained for the channel which will be 32 feet deep, 200 feet wide and will cost approximately $800,000-000.



New route of deep-water channel to be constructed from Intracoastal Canal to Calcasieu Pass which will offer a 38-mile route instead of the 75-mile route to Sabine Pass. The present channel by way of Sabine Pass is also shown. (Inset) Ocean going tanker being loaded at Union Sulphur Co. dock on the Calcasieu River

Probably no other industry will be more benefited by construction of this channel than the oil industry. Oil companies operating in Coastal Louisiana are moving approximately 2,000,000 bbls. of oil monthly from the Port of Lake Charles which is converged to this point by barges and transferred to deep water tankers for shipment to refineries through the Intracoastal Canal by the way of Orange and out to the Gulf through Sabine Pass, a distance of 75 miles. The new channel will reduce the shipping time for this haul from 38 hours to approximately five hours and it has been estimated the total freight rates saving on oil traffic alone will amount to $171,000 annually. The channel will also reduce the cost of pilotage fees, as it is necessary on the present route to use three pilots, where only one will be necessary over the new route. It will also reduce the hazards of navigation and permit day and night navigation which will increase the total tonnage of the port through more frequent, varied and faster services.

Since the Port of Lake Charles was opened to oil traffic in 1926, the total tonnage of the port has shown a large increase each year. In compiling data to be presented to the army engineers, one of the most interesting facts not generally known was that out of a total of 5,271,000 bbls. of oil moved during the first six months of 1935, 94 per cent was shipped by tankers to refineries along the East Coast. In 1933 total oil movement including barges and tankers was only 5,985,000 bbls. In 1934 this was increased to 8,687,000 bbls. and during 1935 to 28,000,000 bbls. of which 17,500,000 bbls. was moved by tankers.

The route of the channel as approved by the war department begins just below the mouth of the Intracoastal Canal where it joins the Calcasieu River and extends due south through the East Hackberry field, along the western edge of Calcasieu Lake several miles south of Hackberry, where it crosses the west cove of the lake and St. Johns Island to enter Calcasieu River and thence across land again to enter the Calcasieu Pass outlet to the sea. There were two alternate routes considered, one of which extended through Calcasieu Lake and the other from the Intracoastal Canal along the east edge of the lake. A superficial survey by engineers, however, indicated the approved route was less costly.

There are five deep-water oil terminals just southeast of Lake Charles on the Calcasieu River. They are operated by W. T. Burton, Shell Petroleum Corp., Union Sulphur Co., Magnolia Petroleum Co. and Continental Oil Co. The latter, recently completed, is one of the largest. The new channel will no doubt encourage construction of more terminals and construction of pipe lines from the East Texas and North Louisiana districts. There are rumors that one large oil company plans to construct a refinery near Lake Charles.

With the exception of two oil lines operated by Continental Oil Co. and Shell Petroleum Corp. practically all of the oil produced in Coastal Louisiana is barged to Port of Lake Charles for refinery shipment. The natural network of rivers, bays and important feeders that tie into the Intracoastal Canal leading from Lake Charles favor the development of this new channel. There are 41 producing fields in the district which last year produced a total of 40,000,000 bbls. of oil, the bulk moved to Lake Charles.

The citizens of Calcasieu Parish of which Lake Charles is the parish seat have been energetic in interesting the government in this deep-water channel. The persistent efforts of the Calcasieu Parish Deep Water Project Committee, together with the rapid growth of the Port of Lake Charles have been important factors. One of the interesting features about the history of the Port of Lake Charles is that it was constructed without the aid of federal help and today represents a total expenditure of $6,600,000. The public docks, 3,200 feet long, with a covered area of 440,000 square feet and the turning basin is one of the largest, being able to accommodate all types of vessels.

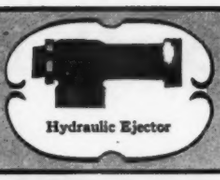
Interest in Field of Colloid Chemistry Shows Increase

CAMBRIDGE, Mass., July 25.—Attendance at the special summer course in colloid chemistry, which was given at the Massachusetts Institute of Technology by Dr. E. A. Hauser during June and July indicated the rapidly developing interest in this significant field of chemistry. The industries represented by those taking the course included rubber, oil, paint, printing ink and cement, as well as several laboratories and chemical manufacturers.

In addition to the regular work of Dr. Hauser's course, there were opportunities for carrying on research on problems of individual interest, utilizing the Institute's unexcelled facilities for such investigations.

Nowata Trip

Appreciating the interest manifest in water flooding, the Tulsa chapter of American Petroleum Institute has accepted the invitation of A. E. Robinson, vice president of Forest Production Co., to inspect the water flooding operations in Nowata and Chelsea areas of Nowata and Rogers Counties, Oklahoma. The trip is to be made August 5, and details are being arranged by W. K. Carr of Oklahoma Petroleum Industries Committee with offices in Mid-Continent Oil and Gas Association headquarters. Anyone interested in this work is invited to make the trip, and Mr. Carr can be reached at telephone 2-5166, Tulsa.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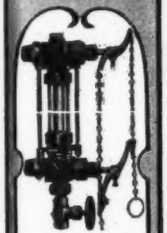
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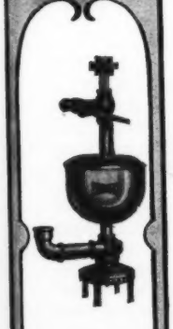
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World Production in First Half Year

Increased to 872,258,992 Bbls.

By C. O. WILLSON

World crude oil production totaled 872,258,992 bbls. the first six months of this year, a gain of 89,780,520 bbls. over the same period last year. This gain is the largest ever recorded for a six-month period and establishes a new world peak by a wide margin.

Based on daily averages the production of 4,792,630 bbls. for the first half-year represents a gain of 284,073 bbls. daily over the last half and 310,974 bbls. over the first half of last year. If the world's production of natural gasoline and related fuels, such as benzol, were included, the actual production of oil the first half-year would be close to 5,000,000 bbls.

The rapid rate at which the world's production and demand for crude oil is increasing can best be visualized when it is realized that 10 years ago the production was approximately 3,000,000 bbls. daily. The rise of more than 50 per cent since 1926 has been brought by increases in several countries. The gains outside the United States are fully as impressive as that of this country, where the principal growth in both demand and supply for petroleum products continues to be recorded.

All of the principal oil-producing countries increased their output the first half-year and in most cases they established new all-time peaks. This was done outside the United States without the aid of a major new discovery of significance in the first six months figures. Reports from these countries show operators were able to increase their output by completing new wells on proven properties and through better operating methods. The latter were particularly important in the fields of Venezuela, Netherland East Indies, U.S.S.R. and several other less important countries.

Pumping methods, repressuring and gas-lift as developed in the United States have been adapted to foreign oil operations with resulting increases in the production of wells which in many cases had been producing little or no oil. Due to the fact that properties are closely held it has been possible to apply certain producing methods on a scale not practicable in this country.

The efforts of the Soviet oil administration to increase its output of crude oil and refinery products are meeting with success although the actual output continues to be behind plans projected from time to time by government officials. The crude oil production passed 500,000 bbls. daily for the first time in the long oil history of that country and additional increases are planned for the second half-year.

Those in charge of oil operations have an extensive exploration and wildcatting plan under way which is to take the drill to remote parts of the U.S.S.R. where promising structures have been outlined. Up to this time the bulk of the increased production is coming from old producing fields of the Caspian sea area, where pools are being extended and new producing sands developed. While production is being increased, available information covering part of the first half-year indicates that exports of petroleum products are about the same as last year. This marks a continuance of a trend apparent in 1935 and 1934 when an expansion in domestic requirements was furnishing outlets for gains in supply.

The war demands of Italy have ceased to be a factor in the oil markets of Europe and this has been reflected in the shipments of several countries, of which Rumania is the most important. The production in Rumania is being maintained despite handicaps largely brought about by unsettled business conditions coupled with the most burdensome taxes of any important oil-producing country.

World Crude Production—First Six Months 1936 and 1935

	1936†	1935	Increase 1936	Daily average 1936	Daily average 1935
United States	532,764,997	473,551,000	59,213,997	2,927,280	2,616,306
U. S. S. R.	92,858,220	81,160,000	11,698,220	510,210	448,400
Venezuela	76,290,434	71,400,000	4,890,434	419,177	394,500
Rumania	31,799,000	31,353,000	446,000	174,500	173,220
Iran (Persia)	28,210,000	25,613,000	2,597,000	155,000	141,500
Dutch East Indies (including British Borneo)	28,074,000	23,272,000	4,802,000	154,253	128,500
Mexico	19,601,784	19,182,482	419,302	107,699	105,399
Iraq	15,968,808	12,372,800	3,596,008	87,740	68,270
Colombia	9,277,378	8,624,800	652,578	50,974	47,650
Peru	8,238,531	8,377,400	*138,869	48,014	46,280
Argentina	7,580,300	7,422,000	158,300	41,650	41,010
Trinidad	6,285,000	5,519,000	766,000	34,533	30,490
British India	4,568,200	4,400,000	168,200	25,100	24,300
Poland	1,856,400	1,765,930	90,470	10,200	9,750
Germany	1,547,700	1,529,000	18,700	8,500	8,450
Ecuador	884,520	749,190	135,330	4,860	4,140
Canada	682,500	687,900	5,400	3,750	3,800
Others	5,771,220	5,498,970	272,750	31,710	30,390
Total	872,258,992	782,478,472	89,780,520	4,792,630	4,323,085

*Decrease. †Production partially for some countries based on reports covering 4 or 5 months of 1936.

VENEZUELA SITUATION

Venezuela established a new record in production for the first half-year period and the gain would have been larger had operators not been constantly faced with conditions brought about by changes in government. Since the first of the year strikes have shut down operations for brief periods. The half-year ended with no certainty that operators will not have similar difficulties over the remainder of the year. Following the death last December of General Gomez, for many years dictator of Venezuela, political conditions have been unsettled and labor leaders have made demands comparable to those with which operators in Mexico have been confronted over the past two years. Aside from the interruption of current operations with resulting losses in production, conditions in Venezuela have made operators hesitant in regard to expansion programs planned for this year. An active wildcat program in eastern Venezuela so far this year has failed to enlarge the proven area of that section, the one to which the country will have to look eventually to maintain or enlarge its present production.

As indicated, conditions in Mexico have been similar to those in Venezuela. There have been new discoveries, development of which would have resulted in much greater increase in crude oil output than was shown the first half-year. As was the case last year, operations were curtailed at several points during the first half-year by strikes with important production completely shut in over part of the period. While operators have expressed confidence that a basis for amicable adjustment of these difficulties will be established, strike conditions in July were affecting more properties than at any other time this year.

Production of Iraq averaged almost 90,000 bbls. daily the first half-year. This production, practically all of which comes from the Kirkuk field, controlled by English, French, Dutch and American interests through the Iraq Petroleum Co., Ltd., presumably has reached its peak until additional transportation facilities are provided. The present output is transported through the pipe-line facilities of the company completed last year connecting to two terminals at Haifa and Tripoli on the Mediterranean.

IMPORTANT DEVELOPMENTS

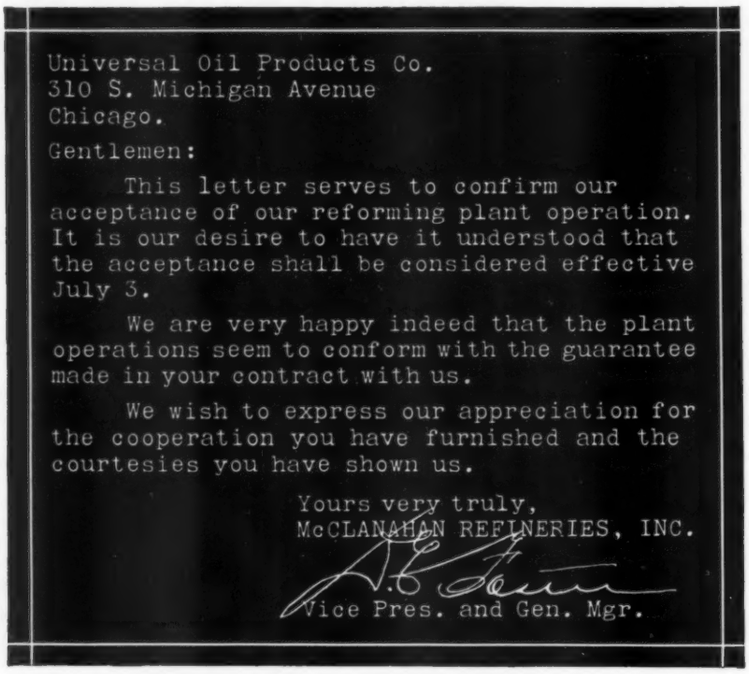
Probably the two most important developments outside the United States so far this year were the purchase of the Barco concession in Colombia by the Texas Corp. and the Socony-Vacuum Oil Co., Inc., and the expansion of operations of the Standard Oil Co. of California in the Persian Gulf area. The sale of the Barco concession followed several years of exploration and development under the direction of the Gulf Oil Corp. While an oil-bearing stratum has been discovered in the south half of the property, a major oil reserve on the concession is yet to be found. Its production will not be a factor in world markets until this reserve has been discovered and a pipe line has been built connecting to the coast. The new owners are planning to continue development work.

In the Persian Gulf the operating subsidiary of the Standard of California has completed additional wells on its Bahrein Island concession, and its present production available for markets is around 10,000 bbls. daily. This outlet will be increased before the end of the year by the completion of a refinery with an initial capacity of 10,000 bbls. daily. Provision for adequate market outlets for this production was assured in the formation of a Far East marketing unit by the Standard of California and the Texas Corp.

The most important foreign wildcat discovery of the half year was the completion of the No. 2 well located on the Jebel Damman structure in the eastern part of Saudi Arabia on a large concession owned by another subsidiary of the Standard of California. The first well was rated at 3,800 bbls. daily at a producing depth of 2,150 feet.

3 days proved it

A new Dubbs unit started its first run in the McClanahan refinery, St Louis, Michigan, July 1 Universal on July 6 received the following letter:



Universal Oil Products Co.
310 S. Michigan Avenue
Chicago.

Gentlemen:

This letter serves to confirm our acceptance of our reforming plant operation. It is our desire to have it understood that the acceptance shall be considered effective July 3.

We are very happy indeed that the plant operations seem to conform with the guarantee made in your contract with us.

We wish to express our appreciation for the cooperation you have furnished and the courtesies you have shown us.

Yours very truly,
McCLANAHAN REFINERIES, INC.

Vice Pres. and Gen. Mgr.

Dubbs units always "seem to conform" to the guarantees because they always *DO* conform—and then some

Ask any Dubbs refiner

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Oil News from Foreign Lands

California-Texas Expansion

Most of the Bahrein Island production was developed before Standard Oil Co. of California and Texas Corp., consummated negotiations for joint operation in that part of the eastern hemisphere. Since the deal was negotiated, marketing operations have been started by the newly organized company in nearly a dozen countries in the Far East and Near East. There are six strings of tools continuously engaged on Bahrein Island where between 20,000 and 30,000 productive acres have been proven up to the present. Completion under pressure is being practiced universally on all Bahrein Island operations.

BAHREIN

Completion of the refinery on Bahrein, construction of which was started by Standard of California, is tentatively scheduled for about Nov. 1 and it will have original capacity of about 10,000 bbls. of crude per day. The plant includes cracking facilities.

Although plans are subject to change in light of future development, tentative construction schedule calls for almost immediate expansion of the Bahrein refinery to double its original capacity. Officials of the California-Texas Oil Co., headed by James A. Moffett, chairman, are not committed to a definite refinery construction program at present, but will be guided by early exploration of untested concessions in other parts of Arabia and on a large concession obtained recently from the Netherlands government in Sumatra. The Sumatra concession embraces approximately 1,482,000 acres.

The California-Texas Oil Co. is now rigging up its first test on the El Elat structure, about 35 miles northwest of the Jebel Dammam discovery producer on the Arabian mainland. Production on Bahrein Island was discovered in June, 1932. Since January, 1936, there have been approximately a dozen producers completed and productive area of the field doubled. Bahrein Island is approximately 10 miles wide and 30 miles long embracing an area of 210 square miles. Population is approximately 175,000 and the people are subjects of Sheik Hamad of the Khalifah family, some member of which has ruled the territory since 1783. Although Great Britain has acted as friend and protector of the ruling sheik for several years, Bahrein is not under its protectorate strictly speaking. Through marketing facilities built up by Texas Corp., east of the Suez canal to Singapore and south along the east coast of Africa where a population of 400,000,000 is estimated, California-Texas Oil Co. plans to extend and increase its distribution. To accomplish the objective of wider distribution, the production department of the new company will be extended to the limit in developing proven territory and exploring potential oil reserves.

Immediate exploration of the recently discovered Jebel Dammam productive structure on the Arabian mainland, but within easy reach of water transportation facilities on the Persian Gulf, is on the program of California-Texas Oil Co., Ltd. Since discovery of the high gravity production in No. 2 Dammam, California-Texas Co. has spudded No. 3 Dammam, about 9,000 feet north of the first producer, and is now in process of plugging back the first hole from around 3,200 to about 2,150 feet. The first test started on the Dammam structure is expected to produce from the 2,150-foot level where No. 2 discovery was completed for nearly 4,000 bbls. of 53 gravity oil per day.

The recently organized California-Texas Oil Co., Ltd., a combination of Standard of California and Texas Corp., has locations made for Nos. 4, 5, 6 and 7 Dammam which will go far toward defining the productive structure but actual drilling has been delayed pending completion of new organization details. R. H. Morrison, Dallas, formerly manager of California Co.'s southern operations in Texas, New Mexico and Louisiana, is due to arrive in New York about Aug. 1 to take charge of California-Texas production department.

On Bahrein Island, California-Texas Oil Co. has approximately 175,000 bbls. daily potential production from 28 completed oil wells. The oil is approximately 33 gravity and is encountered around 2,200 feet.

Dispute With Japan Settled

Settlement of the long dispute between the Japanese government and oil companies operating in that country over storage requirements has been reached and the threatened expulsion of foreign concerns terminated. The Japanese oil law over which lengthy contention has been waged between the government and representatives of American and British oil companies stipulated that all concerns must keep in storage a six months' petroleum supply to meet emergency demands, interpreted as a wartime protective measure since it was fostered by strong political Japanese army wing. Settlement was reached through assumption of obligation to build storage to accommodate three months' petroleum supply by the Mitsui Bussan Co., a Japanese controlled concern. The solution will enable the foreign oil companies to continue maintenance of their normal three months' supply and thus serve to satisfy both disputing parties.

JAPAN

Construction of the additional storage facilities was regarded by the foreign oil companies as economically impossible and withdrawal from the country had been threatened if the Japanese law reached stages of full enforcement. Japan is dependent on imports for more than 60 per cent of her petroleum requirements.

Italian Interest in Oil

Three Italian directors on the board of Mosul Oil Fields, Ltd., have been visiting in London, England, possibly presaging expansion of the company's development activity on the western Iraq concession which has been proved productive by earlier drilling. The London visitors from Italy were S. E. Professor Umberto Puppini, director of Mosul Oil Fields, Ltd., and president of A.G.I.P., Italian owned and controlled oil company; Marchese Giovanni Patrizi and Dr. Mariani. The Azienda Generale Italiana Petroli, Italian nationalist oil company, recently obtained a substantial and controlling interest in the Mosul company. Italy's anxiety to develop its own oil production to eliminate or minimize its dependence on other nations for that source of power has been outstanding since the Ethiopian conquest.

ITALY

The threat of imposing oil sanctions on Italy during the Ethiopian campaign has gone far to make the nation petroleum conscious. Italy is expected to be among the most aggressive of foreign nations for acquisition of dependable and controlled sources of crude until its security in supply of this commodity is secured.

To encourage the production of gasoline from domestic materials, the Italian government recently published a list of concessions that will be granted to firms treating crude petroleum, lignite and other national coals, asphalt and bituminous rock by the hydrogenation process, according to reports reaching the commerce department's chemical division. Such firms will be permitted to import machinery duty free, will not be subject to the turn-over tax, and will be exempt from paying income taxes on earnings for a period of 10 years from the beginning of operations, it was stated. The decree also provides for financial assistance through the ministry of corporations.

Tankers for Iran

Anglo-Iranian Oil Co. has accepted delivery on the first of a dozen new motor tank vessels to ply between refineries and crude supplies in Iran and the world markets. The first tanker of the new fleet was delivered June 19 at the Neptune, England, shipyard with Mrs. Anthony Eden, wife of the foreign secretary, and Sir John Cadman, chairman of the Anglo-Iranian, participating in the launching ceremonies. The new tanker "British Fame" is designed to carry total deadweight of 12,250 tons. The Anglo-Iranian will spend approximately £2,000,000 on its new marine equipment over the next 12 months.

IRAN

Ramsay & Treganowan, Ltd., Newport refinery, Australia

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Grave Danger

With producers cooperating on proration as well as they do and with many marketing evils eradicated by transfer of station outlets from companies to dealer operators, a grave danger of trouble ahead lies within the refining branch of the industry.

Crude producers have shown willingness to cooperate on curtailment but their efforts will go for naught unless the refining branch recognizes at this early date it has a very serious problem before it.

The oil industry has been extremely lucky in finding a most unexpected increase in consumption to take the excess gasoline stocks accumulated last winter off its hands. The abnormal winter and the resulting market for burning oils and fuel oils caught many refiners short at the height of demand and that experience appears likely to bring about an extreme operating schedule and cause many refiners to fill up fuel oil stocks to meet a demand like that of last year.

Early statistics show refiners already are changing their operations, stepping up recovery of lower fractions, fuel oil and distillates, to fill up fuel tanks for supposed needs during next winter.

But at the same time they are getting a dangerous volume of gasoline on their hands, just as they did last spring. And there is no assurance next winter's conditions will be anything like those of last winter which were unprecedented in the record of forty years.

The situation is very human. The most natural impulse after finding one's self unprepared as the refiners were last winter is to resolve not to be caught short again and to incline to make so sure of that as to go to the other extreme, too fast and too far.

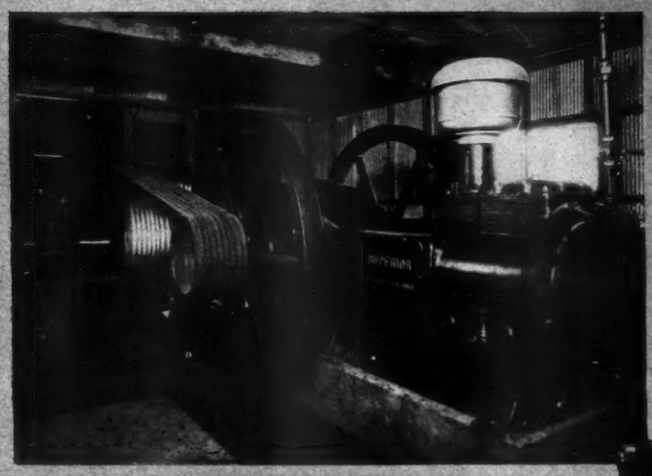
An orgy usually follows a famine. Normal rebound from shortage is almost always overproduction.

That seems to be precisely the attitude of refiners today and their present danger. They are so impressed by their predicament of last winter when for lack of supplies they saw money going out of the window that they are concentrating on fuel yields and even revamping plants to increase them at an earlier date than ever before.

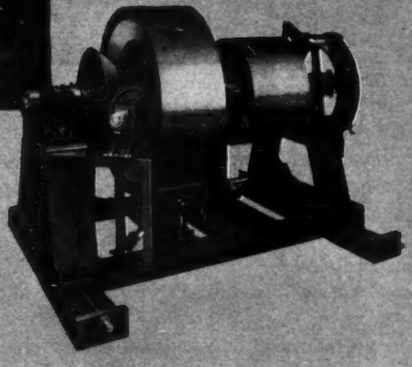
Actually gasoline stocks should not be any larger on October 1 this year than on October 1 last year when they were 51,334,000 barrels. Refiners should not look for another phenomenal demand for fuel oil like last winter. The chances are all against it.

Overproduction of burning oils risks not only unnecessary stocks of that product but also, which is of vital importance, dangerous accumulations of gasoline which can not count on another season of extraordinary increase in consumption next summer such as experienced this year.

Superior TYPE "C" PUMPING ENGINE



For extra heavy pumping wells, the Superior Type C heavy duty horizontal convertible gas or oil engine with countershaft is the ideal combination.



Countershaft furnished for straight pumping, or with friction reverse (70 per cent faster reverse) for servicing.

This unit insures maximum power and speed range and lowest possible maintenance under the most severe pumping conditions. Vee belt drive reduces building costs.

THE NATIONAL SUPPLY COMPANY

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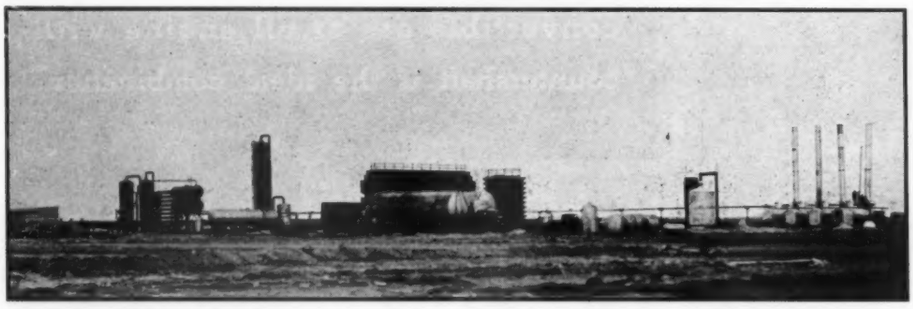
SEMI-ANNUAL REVIEW AND PRESENT OUTLOOK

The first six months of 1936 established new records in the history of the oil business.

Domestic production passed any previous production for the same period by more than 10 per cent, and with several countries outside the United States also establishing new peaks, world production is rapidly approaching a total of 5,000,000 barrels a day.



This unprecedented production is the result of a widespread increase in demand which includes all the principal products and all countries. Petroleum has become the most essential product in commercial life outside of foodstuffs and clothing. It is a distinct necessity. During an unparalleled period of tumult and unsettlement the demand for oil remained high because the modern world had found it indispensable, for the operation of industries, the movement of commerce, the facilitation of transportation and an essential factor for national defense.

Within the past ten years world demand for oil has increased almost 40 per cent. Demand in the United States increased approximately 10 per cent over the first six months of the previous year and 25 per cent over the 1926 rate.

Oil has become the blood-stream of industry. It furnishes cheap, flexible and mobile power for all purposes in factory and field, for transportation on land, sea and air. Airplanes, airships, motorships, diesel propelled trains, owe their potentialities to oil.

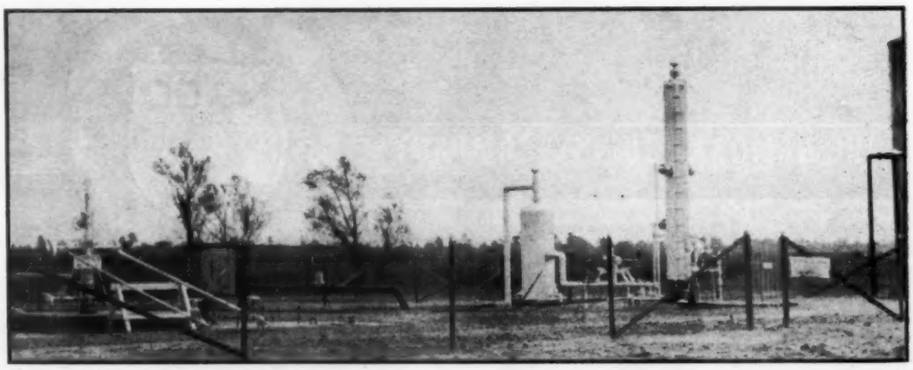
Oil offers a liquid fuel superior to coal with demonstrated possibilities of the development of oil for heating that will rival the use of oil for power.

Skeptics a few years ago were speculating about a saturation point in the demand for automobiles and gasoline and oil for their use. Yet the demand for gasoline this year is running 15 per cent above the pre-depression peak and 10 per cent above last year which was the previous record.

The industry, by a very slow process, has been able to effect an improvement in its price situation. The refiners' average price for gasoline, kerosene and most grades of fuel oil have recovered from the extreme lows of 1932 and 1933 and are returning to the fair price levels of 1930 and 1931.

The average price of retail gasoline in 50 cities for the first six months of this year was 14.12 cents, an increase of one cent a gallon over the same period of last year, and the highest level since 1930, with consequently better earnings for the industry than for several years.

It may be amazing that an industry could achieve such a result with an increase of only a few cents on its raw material and of only one cent on its chief finished product but this is what actually occurred, yet with little or no increase in cost to the consumers.



This has been only because the industry through largely increased efficiency in operations has been able to place itself in a much more satisfactory position.

Representative refinery prices in Oklahoma on gasoline are still substantially below those in effect during the late "20s" in contrast to the situation in many other industries where prices have returned to near their peak level with the rise in commodity prices.

The retail price of gasoline in 1927, exclusive of tax, was 18.01 cents for grades similar to that sold in the first half of 1936 for 14.12 cents, or 25 per cent less than 1927-29 prices.

The actual price has not reflected that great saving because of the increase in taxes, the average taxes being now 5.36 cents a gallon or 35 per cent of the price paid by the consumer.

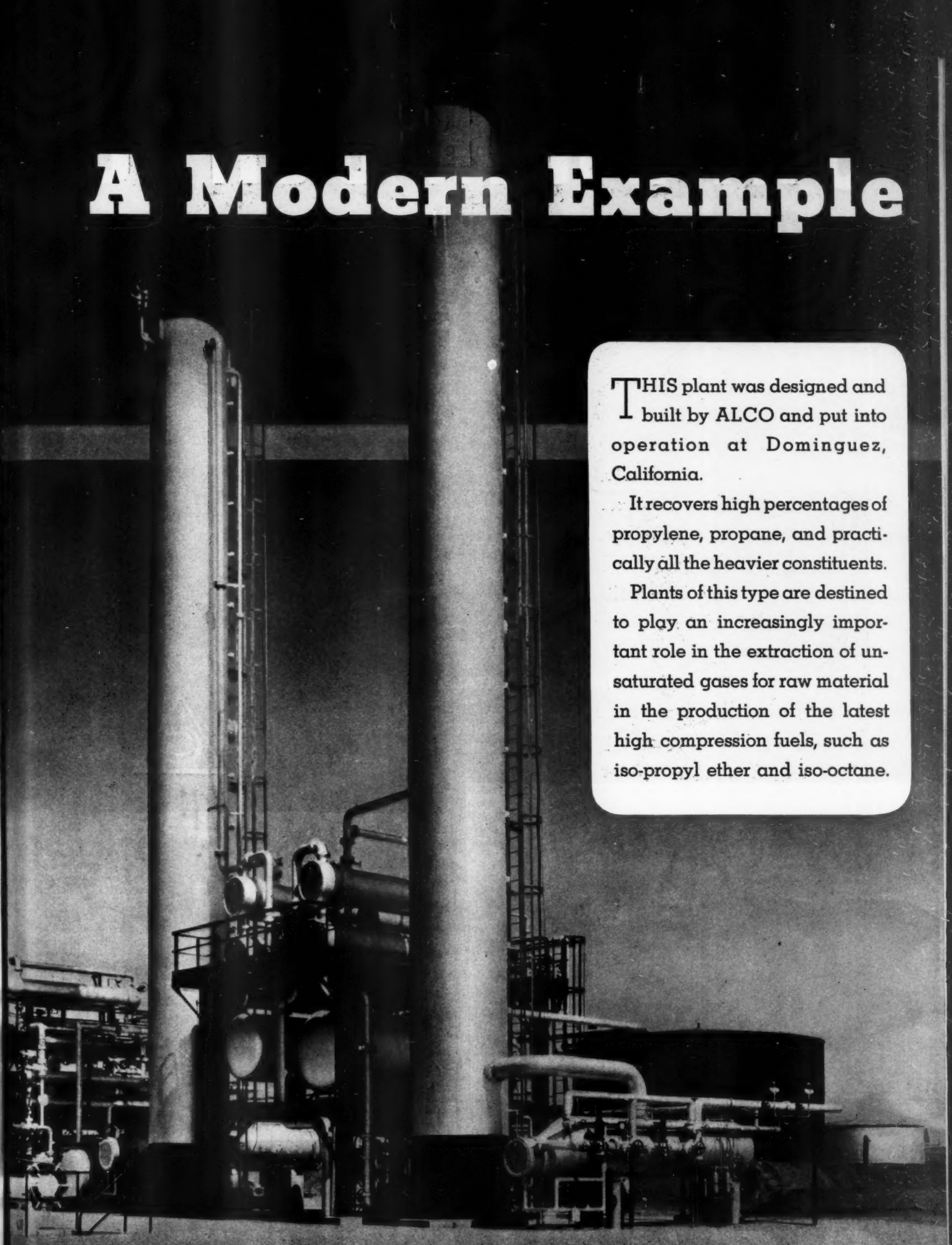
All indications point to developments during the last half of the year overshadowing those in the first six months. The demand for domestic crude will exceed 3,000,000 barrels a day. The demand for gasoline, while it may not show the percentage of increase in the first half year, will run at least 5 or 6 per cent greater than during the final period of last year.

All available information indicates that the demand for oil outside this country will keep pace and that world production for 1936 as a whole will establish a new record.

This phenomenal increase in demand for crude oil and most of its products does not, however, in itself, mean that the industry is assured profitable operations for the balance of the year. We know definitely that we have enough discovered oil for that period but continued effort is required to maintain actual production in line with demand if stability in the industry is to be retained.

There is every prospect for continued increase in the demand for petroleum and its products, thus assuring the industry healthy expansion. Almost every new industrial or commercial development is found to depend in some degree upon oil, constantly widening the outlets. The rapidity with which demand recovered and even surpassed the previous peak can be explained in no other way.

A Modern Example



THIS plant was designed and built by ALCO and put into operation at Dominguez, California.

It recovers high percentages of propylene, propane, and practically all the heavier constituents.

Plants of this type are destined to play an increasingly important role in the extraction of unsaturated gases for raw material in the production of the latest high compression fuels, such as iso-propyl ether and iso-octane.

ALCO PRODUCTS INCORPORATED

30 CHURCH STREET NEW YORK CITY

GARDNER-DENVER

Twin Cylinder STEAM DRILLING ENGINES

Gardner-Denver Twin Cylinder Steam Drilling Engines are known for their ability to do heavy work at low operating cost. There are two types, the "Standard" for average drilling conditions and the "Heavy Duty" for use on the deepest wells. The "Heavy Duty" will withstand the highest steam pressures encountered in rotary drilling.

Advantages of both types include totally enclosed dust-proof construction, one-piece frame providing perfect alignment, and Timken tapered roller bearings, grease packed, to insure long life.

Lubrication for steam cylinders is of force feed with splash lubrication for crank end. Perfect balance assures easy starting, quick acceleration, quick reversals and freedom from vibration.

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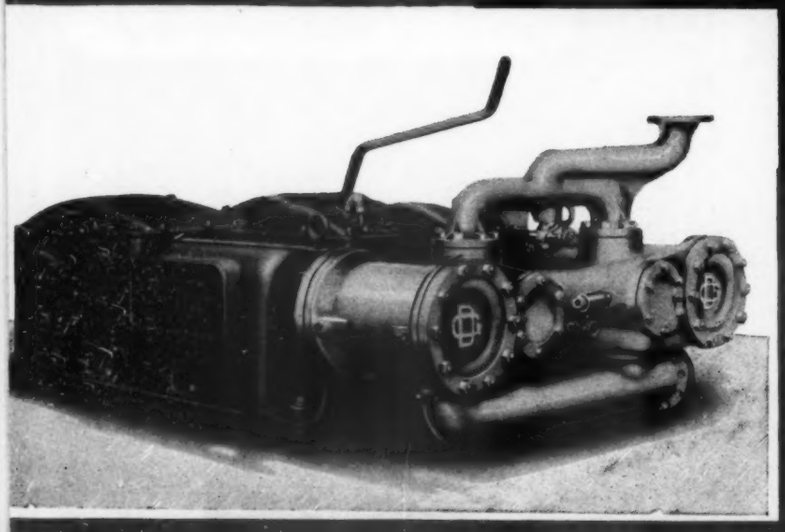
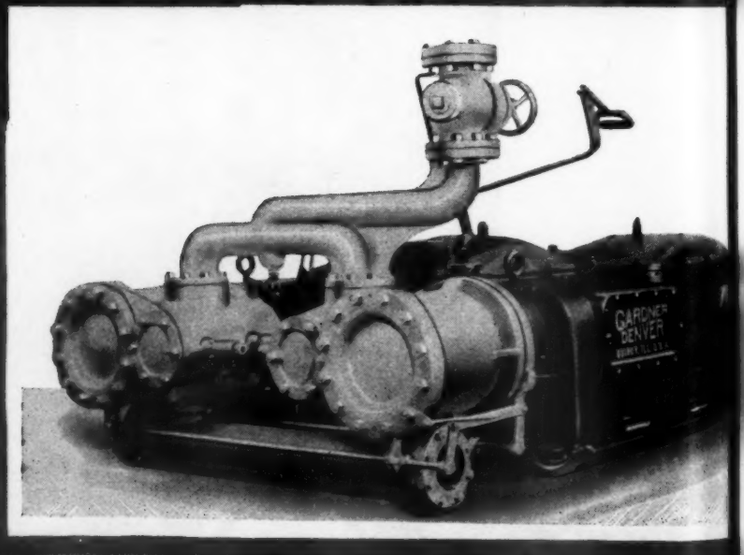


12 x 12 "Heavy Duty" Steam Drilling Engine. Piston Valve Type



14 x 12 "Standard" Steam Drilling Engine

"SERVING THE OIL AND GAS INDUSTRIES"

CONTINENTAL

Six-Year Record for Completed Wells Established in First Half of 1936

By JAMES McINTYRE

More wells were completed in the first half of 1936 than in any similar period since 1929, but more oil wells were completed in the first half of this year than in any similar period since 1923.

The record of oil wells this year was 8,358, while in the first half of 1929 only 7,002 were brought in. The same period in 1927, during which 12,738 wells were completed, the oil wells numbered 8,253. The percentage of oil wells this year was the highest in many years, exceeding 71 per cent of successes. This fact will be a source of satisfaction to geologists and geophysicists. It upsets the belief that oil is harder to find now than it was 10 years ago. It would have been harder to find with old-fashioned methods of geology, but science has new methods of locating structures capable of holding oil, and a generous expenditure of capital has done the rest.

In spite of the fact that the half year's field work developed more oil wells than any other half year since 1923, it must be said that not one field that looks like a major proposition was uncovered in the six months. Many small, rich pools were opened and extensions made to many others, but the record remains that since the discovery of East Texas we have found only a Conroe, a Fitts and a Rodessa amid a host of small pools.

BIG WELLS WERE COMMON

A large volume of new production resulted from the half year's work. A few examples may be presented to show this. Among the prorated fields are those where the proration authorities permit 24-hour flows to measure potential production of wells. In Lea County, New Mexico, 212 new oil wells produced 322,553 bbls. initially, or an average of 1,521 bbls. per well. In Wyoming eight new wells in Niobrara County averaged 1,500 bbls. per well and seven in Carbon County averaged 1,734 bbls. per well. In Colorado the three oil wells completed in Archuleta County averaged 1,483 bbls. per well. In Kansas the 62 new oil wells in Barton County averaged 1,094 bbls. initially, and in Rice County the 113 oil wells averaged 933 bbls. each initially, and many of these were in old pools pulling down the average. In Ellis County 16 new wells averaged close to 900 bbls. each. In the Oklahoma prorated fields 24-hour flows are not permitted, but 20,000-bbl. wells were not uncommon in Fitts and Oklahoma City.

Tight proration in East Texas has made it impossible to measure the real 24-hour potential of wells, but conservation of reservoir energy and short-time flows that have prevailed in that field for a long time enable present-day new wells to show an amazing potential. On the Gulf Coast the system of bringing in wells on small chokes, through tubing, brings down the initial production, but builds up a reserve that some day will be very much needed.

While no outstanding field was discovered in the first half of the year, many pools were opened in widely separated places from Michigan west to the San Joaquin Basin in California.

Twenty-four pools were opened in Kansas, the most important of which at this time appear to be Lerado, Reno County, Bemis and Ruder in Ellis County, and Hauschild in Rice County. Two 10,000-bbl. initial producers have already been tested in the Hauschild area. Out of 124 completed wildcats in the state, 29 were productive of oil or gas or both, and 95 were dry.

Twenty Oklahoma wildcats opened oil or gas reserves, none of which appears to promise major production, and the outstanding development of the period was the Capitol extension of the Oklahoma City field, where enormous producers were uncovered in a limited area which was defined at the end of the half year. The potential rating of the completed wells had reached over 1,000,000 bbls. per day when this was written, toward the close of July. Fitts was extended; the Fox field deep sand discovery of 1935 in Carter County was finally completed for large production and the discovery well in the Moore pool in Cleveland County, completed in June, 1935, as a gas well producing distillate, was deepened and flowed for three hours at the rate of 33,936 bbls. per day. Late in June a well in the Crescent pool in Logan County, deepened in the second Wilcox sand, flowed at the rate of 33,928 bbls. per day. These were the largest potential producers of the half year.

Summary of Completed Work in All the Fields of the United States in First Six Months of 1936 and in Same Period of 1935

	First 6 mos.	Comp.	Initial prod.	Dry holes	Gas wells	Oil wells	Av. initial prod. (bbls.)
Eastern	1936	1,598	4,407	101	233	1,264	3.48
	1935	1,364	2,749	124	211	1,029	2.67
Central Ohio	1936	119	395	34	72	13	30.39
	1935	96	249	29	58	9	27.78
Michigan	1936	336	30,860	97	94	145	212.83
	1935	185	26,339	50	43	92	286.30
Lima	1936	29	163	7	12	10	16.30
	1935	48	251	12	13	23	10.92
Indiana	1936	82	728	39	23	20	36.40
	1935	98	408	37	46	15	27.20
Kentucky	1936	111	5,064	44	5	62	81.68
	1935	113	3,464	32	9	72	48.11
Alabama	1936	4	0	4	0	0	.....
	1935	2	0	2	0	0	.....
Mississippi	1936	9	0	9	0	0	.....
	1935	8	0	5	3	0	.....
Illinois	1936	23	551	6	0	17	32.41
	1935	9	341	5	0	4	85.25
Kansas	1936	757	381,396	192	25	540	706.30
	1935	603	345,677	129	18	456	758.06
Oklahoma	1936	1,220	622,479	332	66	822	757.27
	1935	953	514,220	279	56	618	832.07
N. Central Texas	1936	1,374	65,943	631	25	718	91.84
	1935	1,256	58,117	574	20	662	87.79
West Texas	1936	678	330,475	98	11	569	580.80
	1935	371	149,848	81	4	286	524.01
E. C. and E. Texas	1936	1,482	60,371	117	6	1,359	44.42
	1935	2,589	135,653	127	9	2,453	55.29
E. Tex. border counties	1936	31	17,100	9	3	19	900.00
	1935	7	0	7	0	0	.....
Texas Panhandle	1936	333	134,261	11	86	236	568.90
	1935	317	149,999	21	35	261	574.72
Gulf Coast, Texas	1936	573	177,713	148	18	407	436.64
	1935	498	165,091	147	21	330	500.28
Southwest Texas	1936	1,395	391,562	268	47	1,080	362.56
	1935	645	87,474	273	43	329	265.88
North Louisiana	1936	328	264,567	60	55	213	1,242.10
	1935	138	2,885	59	37	42	68.69
Gulf Coast, Louisiana	1936	202	82,751	62	3	137	604.02
	1935	192	81,907	76	5	111	737.90
Arkansas	1936	46	4,820	29	2	15	321.33
	1935	76	4,589	44	2	30	152.97
Montana	1936	94	7,358	16	8	70	105.11
	1935	62	5,104	12	4	46	110.96
Wyoming	1936	43	28,424	10	0	33	856.80
	1935	26	19,382	8	3	15	1,292.13
Colorado	1936	16	4,663	10	0	6	777.14
	1935	8	8,488	3	0	5	1,697.60
New Mexico	1936	265	324,312	25	10	230	1,410.04
	1935	138	251,934	31	3	104	2,422.44
Utah	1936	5	0	5	0	0	.....
	1935	4	0	3	1	0	.....
California	1936	553	183,541	171	9	373	492.07
	1935	523	380,105	158	0	365	1,041.38
First six months	1936	11,706	3,123,904	2,535	813	8,358	373.76
First six months	1935	10,329	2,394,274	2,328	644	7,357	325.44
Difference		1,377	729,630	207	169	1,001	48.32
First six months	1934	8,292	2,430,413	1,942	528	5,822	417.45
First six months	1933	4,972	1,464,200	1,634	381	2,957	495.16
First six months	1932	6,746	1,031,691	1,574	547	4,625	223.07
First six months	1931	6,373	4,131,038	2,266	1,119	2,988	1,382.54

TEXAS DISCOVERIES

About 400,000 bbls. initial production was uncovered in Southwest Texas, most of it from fields already opened when 1936 was born. It was the banner half year for that big territory where 1,395 wells were completed, of which 77 per cent were oil wells.

In the Gulf Coast division of Texas and Louisiana 11 pools were opened and deeper pay horizons were successfully explored. Nine of the new pools were in Texas and two in south Louisiana. The Texas pools were in Jefferson, Matagorda, Brazoria, Refugio, Wharton, Calhoun, Galveston and Harris Counties; and the Louisiana discoveries in St. Mary and Acadia Parishes.

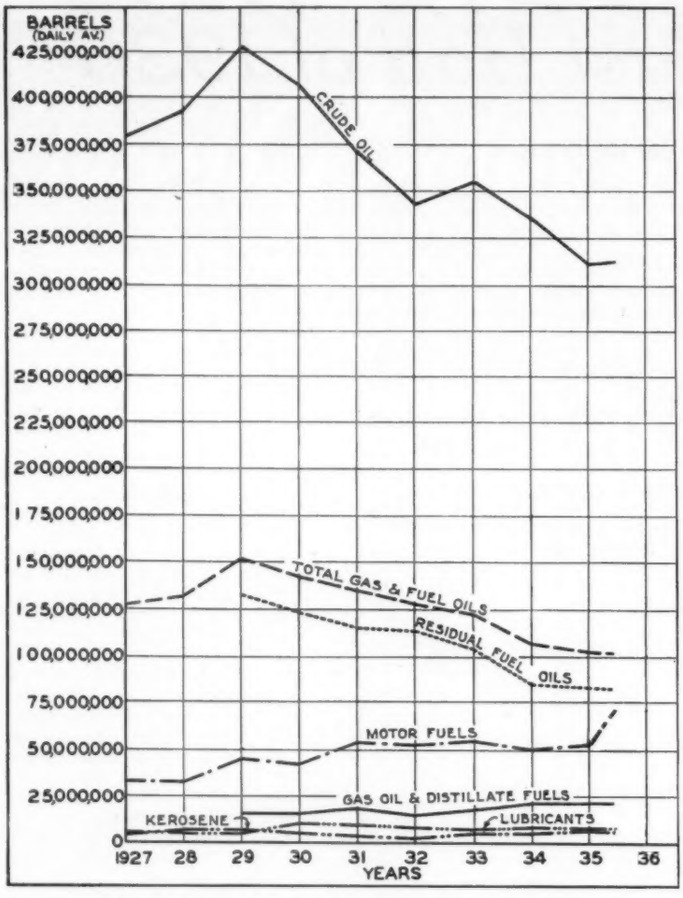
In the East Central Texas district the outstanding discovery was the Talco pool in Titus and Franklin Counties, a fault line pool which produces from the Paluxy sand in the Trinity series, yielding wells of 500 bbls. per day of 24 gravity crude. Another Paluxy sand pool was opened in Hopkins County, southwest of the Talco pool, but the well is not completed or tested. It is variously estimated up to 500 bbls. per day of 24 gravity crude.

In the far eastern county of Cass the Rodessa field was extended from Caddo Parish, Louisiana, and promised to become the most important discovery of the year, although it was no surprise to Rodessa operators who figured early in the year that the Rodessa field would produce along a "shoestring" 30 to 40 miles in length from eastern Texas.

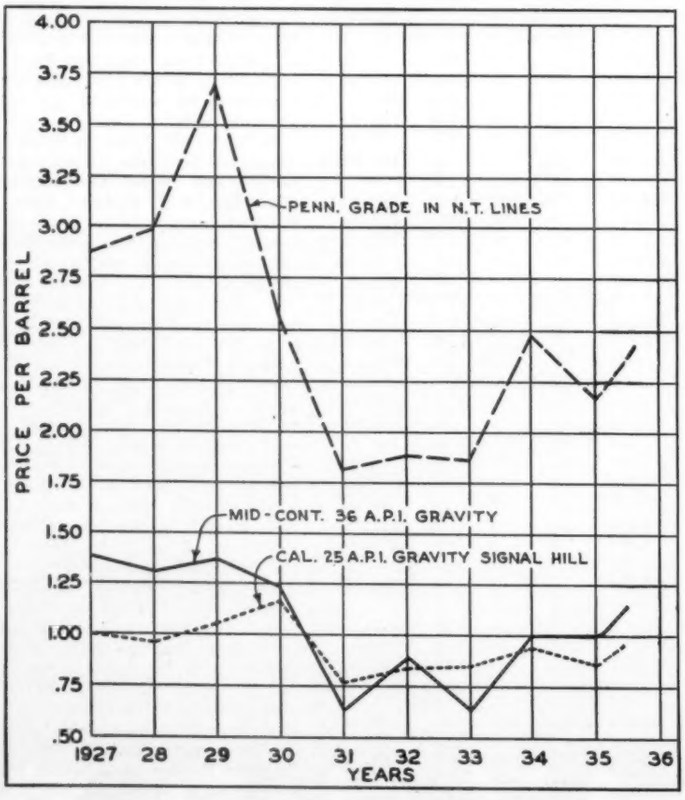
(Continued on Page 62)

Comparative Charts Showing Developments Since 1927

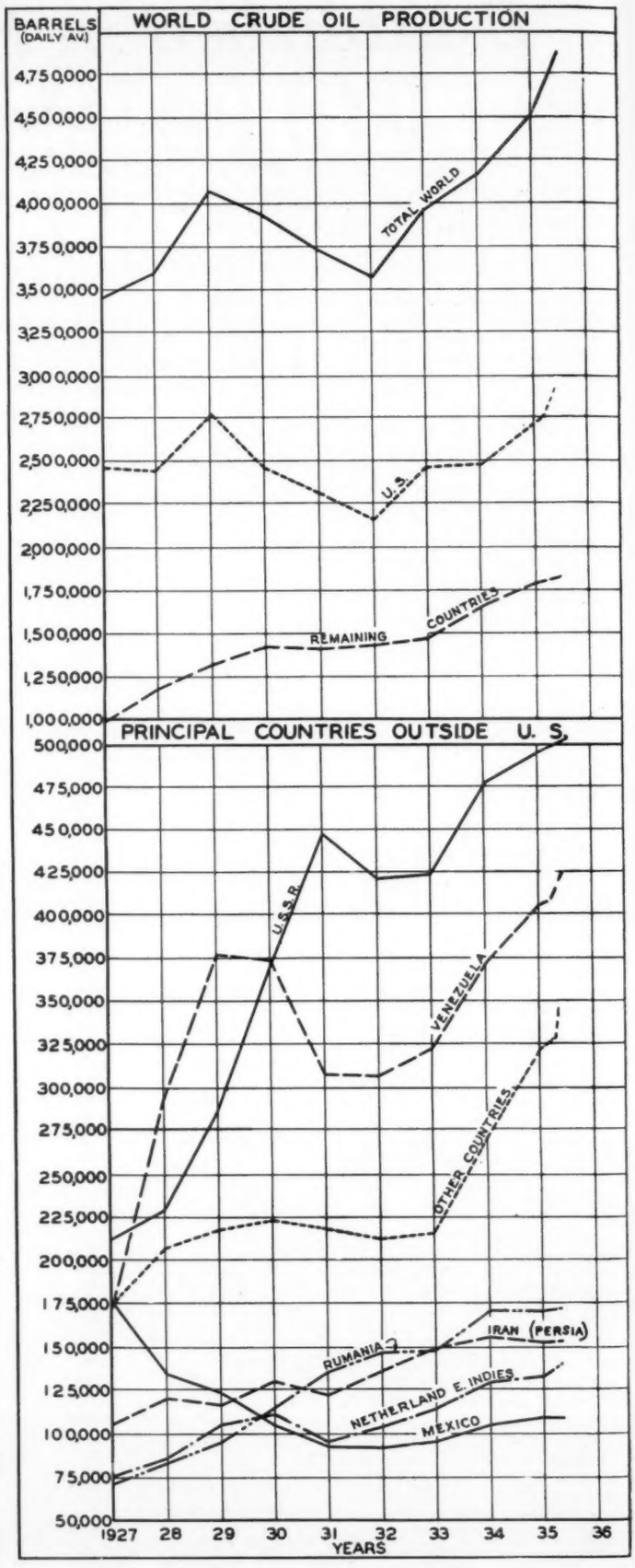
Vertical lines indicate end of year. Figures, except prices, based on Bureau of Mines reports. June, 1936, figures estimated



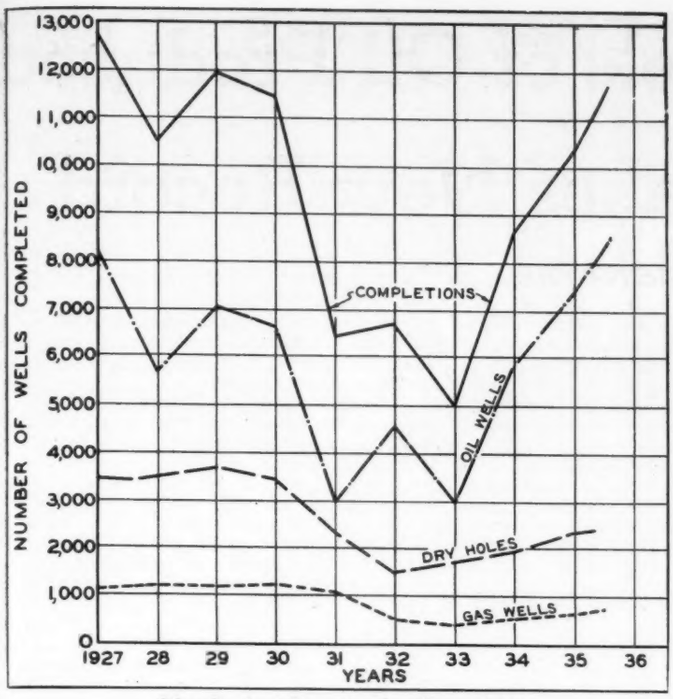
Stocks end of year of crude oil and principal refinery products



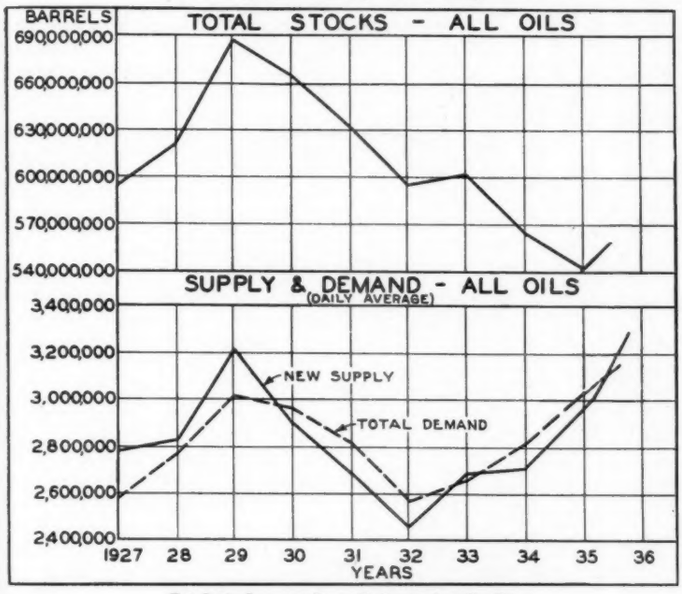
Average yearly prices—representative crude oils



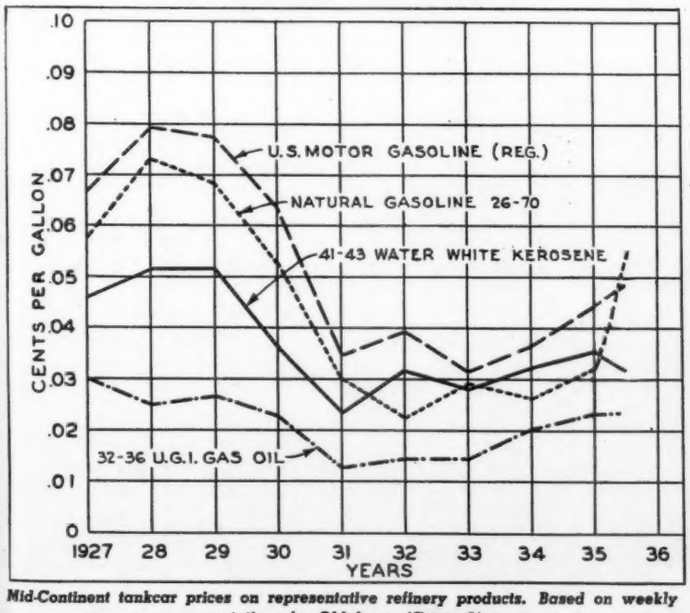
Total production of crude and of principal countries outside the United States



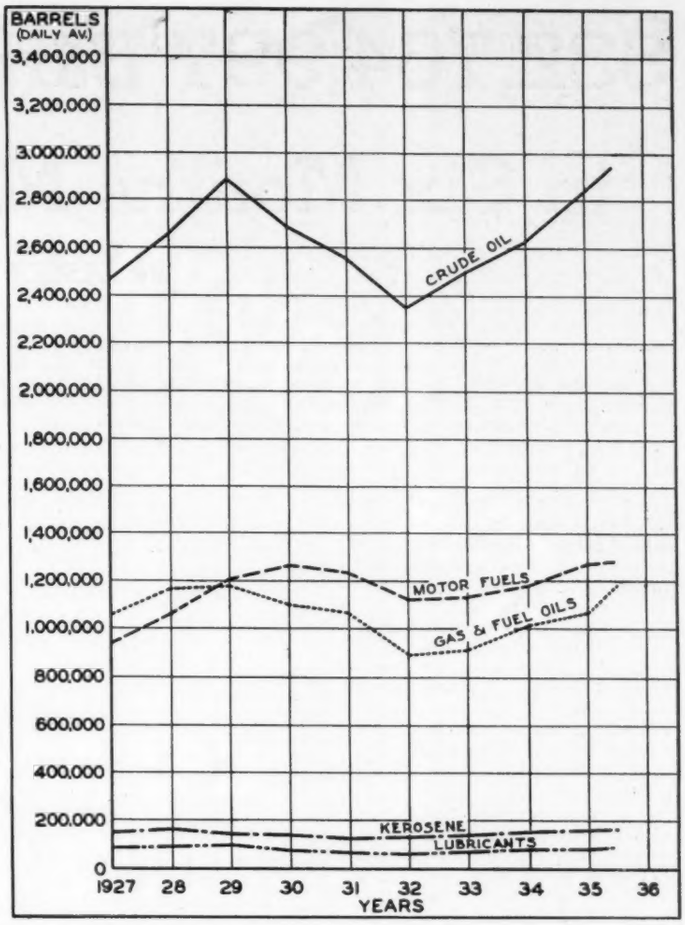
Oil wells, dry holes and gas wells completed



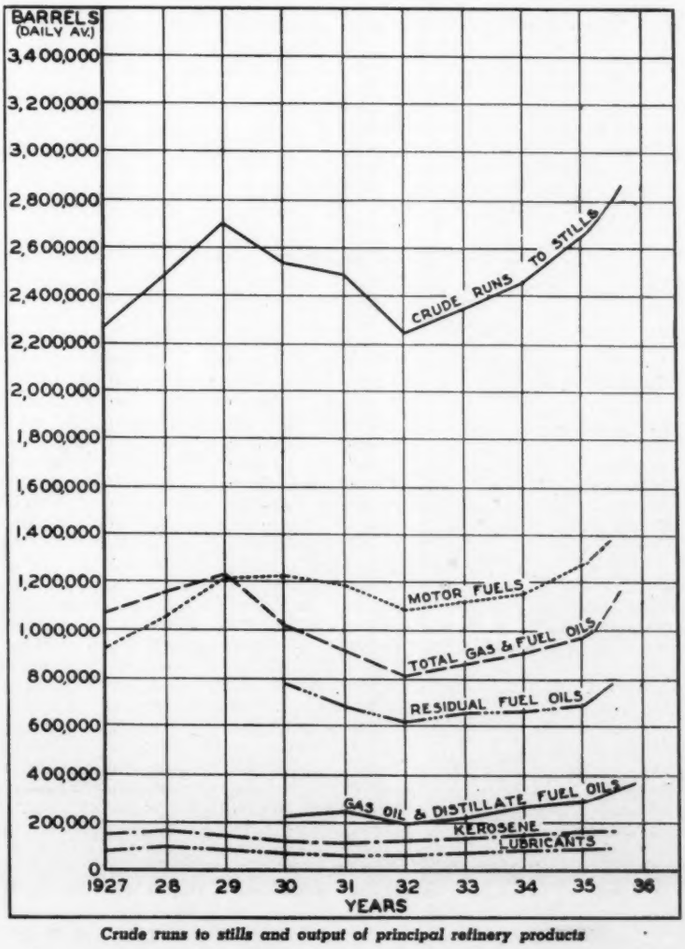
Total stocks, supply and demand—all oils



Mid-Continent tankcar prices on representative refinery products. Based on weekly quotations for Oklahoma (Group 3)



Total demand for crude oil and principal refinery products



Crude runs to stills and output of principal refinery products

532,764,997 Barrels of Oil Produced in Six Months Makes New Record

By JAMES McINTYRE

That 1936 will be the greatest production year in the history of the oil business appears to be a very safe prediction. In the first half of 1936, 532,764,997 bbls. of crude oil was produced in the United States, breaking all records for any six-month period. In the peak year, 1929, the production totaled 485,821,320 bbls. in the first half and 518,445,403 bbls. the second half.

In the last half of 1936 the production is expected to exceed the record of the first six months as, at this writing, the country is producing at the rate of nearly 1,100,000,000 bbls. per year. The greatest previous year's crude oil output in the United States was 1,004,266,723 bbls. in 1929.

The unprecedented production of the first half of this year was caused by the demand made upon the producing end of the industry by the refiners who required the raw product to meet the demands put upon them by the public. This will be a new peak consumption year for the products of petroleum.

No outstanding field was discovered in the first six months. The increased production came mostly from discoveries of past years. Rodessa, in Louisiana and Texas, a 1935 discovery, produced 8,619,748 bbls. in the first half of this year, but had no existence as an oil field in the first half of last year. Loma Novia, Texas, produced 2,014,593 bbls. and was not listed in the first half of 1935. Caillou Island, Louisiana, which produced 1,233,657 bbls. in the first half of last year, produced 2,266,850 bbls. in the same period this year. The Silica pool in Rice and Barton Counties, Kansas, which recorded 99,768 bbls. in the first half of 1935, produced 1,424,569 bbls. in the January-June period this year, and the Eunice pool in Lea County, New Mexico, nearly tripled its production with a total of 3,326,778 bbls. The Fitts pool in Oklahoma increased from 2,216,395 bbls. in the first half of 1935 to 8,520,329 bbls. in the same period this year. These were the most noteworthy increases. East Texas and Oklahoma City, the country's present largest producing pools, declined somewhat this year.

States showing an increase in production over the like period in 1935 include Pennsylvania, 65,900 bbls.; New York, 150,000 bbls.; Kentucky, 1,000 bbls.; Indiana, 10,000 bbls.; Illinois, 64,000 bbls.; Kansas, 713,573 bbls.; Oklahoma, 6,677,838 bbls.; Texas, 15,969,528 bbls.; Louisiana, 15,549,098 bbls.; California 17,026,684 bbls.; Wyoming 104,884 bbls.; Montana, 749,839 bbls.; Colorado, 5,905 bbls., and New Mexico, 2,914,712 bbls.

Sixty-six pools listed on this page, and which produced 329,504,504 bbls. of oil in the first half of 1935, increased 26,763,860 bbls. or to 356,268,364 bbls. in the same period this year, while all the other pools in the country, which produced 144,046,808 bbls. in the first half of 1935 increased 32,323,847 bbls. or to 176,466,633 bbls. in the same period this year. The greatest gain in any state was in California, which increased its production 17,026,684 bbls. over the same period last year. Texas, with a total of 208,496,955 bbls. showed an increase of 15,969,528 bbls., but most surprising of all was the percentage gain in Louisiana which jumped its crude output from 22,321,868 bbls. to 37,870,966 bbls. or nearly 70 per cent. Oklahoma increased 6,677,838 bbls. and Kansas 713,573 bbls. Louisiana's big gain was the result of a very liberal policy on the part of the state's conservation department which was more interested in obtaining production-tax receipts than in conserving oil in the ground and reservoir energy. Kansas' small gain was the result of careful and consistent conservation notwithstanding a greatly increased potential.

The production of the half year brought the all-time crude output of the 12 largest producing fields in the country to the following figures: East Texas, 871,210,471 bbls. (not including millions of barrels of hot oil); Midway-Sunset, California, 797,569,336 bbls.; Seminole field, Oklahoma, 593,693,344 bbls.; Santa Fe Springs, California, 410,030,296 bbls.; Smackover, Arkansas, 355,659,622 bbls.; Bradford, Pennsylvania and

PRODUCTION UPS AND DOWNS

	First six months 1936 (bbls.)	First six months 1935 (bbls.)
California—		
Coalinga	3,260,025	3,457,770
Kern River	2,590,037	1,987,403
Kettleman Hills	14,875,694	11,140,638
Midway-Sunset	10,414,354	9,588,798
Mountain View	5,393,363	2,577,768
Mount Poso	3,502,685	2,315,143
Elwood	2,376,075	1,922,549
Ventura Avenue	6,354,471	4,434,975
Brea Olinda	1,487,155	1,820,138
Coyote	1,559,961	2,210,405
Dominguez	5,052,769	3,670,087
Huntington Beach	6,719,175	7,218,344
Inglewood	2,251,224	1,908,544
Long Beach	12,858,562	12,022,639
Playa Del Rey	2,536,308	2,449,865
Santa Fe Springs	8,254,530	6,875,930
Seal Beach	1,772,949	1,681,091
Elk Hills	1,664,053	1,454,266
New Mexico—		
Hobbs	4,784,709	5,683,283
Eunice	3,326,778	1,261,640
Wyoming—		
Salt Creek	3,027,328	3,231,332
Montana—		
Cut Bank	1,442,995	899,863
Oklahoma—		
Burbank	1,380,806	1,580,072
South Burbank	2,618,361	2,123,614
Seminole Field	13,297,134	12,892,472
St. Louis-Pearson	4,339,139	4,294,513
Allen	1,433,425	1,579,400
Fitts	8,520,329	2,216,395
Fish	1,806,214	1,581,795
Cushing-Shamrock	2,124,852	2,379,763
Bristow-Slick	1,534,542	1,692,543
Oklahoma City	25,063,570	28,160,414
Lucien	2,199,182	1,810,646
Crescent	915,106	1,042,157
Healdton	1,660,566	1,684,361
Edmond	1,926,270	398,038

	First six months 1936 (bbls.)	First six months 1935 (bbls.)
Texas—		
Church-Fields-McElroy	2,139,098	1,995,394
Chalk-Roberts	3,479,328	3,246,372
Yates	7,217,512	8,338,045
Grand Falls	2,382,231	1,944,093
Thompson	1,844,092	2,136,526
Hendrick	2,804,652	3,064,746
Big Lake	1,543,553	1,911,623
Government Wells	3,042,070	3,379,808
Loma Novia	2,017,593	.....
Barbers Hill	3,052,323	3,467,194
Conroe	7,624,805	8,207,951
Greta	2,912,283	2,328,773
Van	6,373,794	7,423,375
East Texas	85,066,114	86,351,888
Pampa	5,379,620	5,851,499
Borger	2,686,807	2,278,940
Wheeler County	2,024,905	1,744,570
Louisiana—		
*Rodessa	8,619,748	.....
Bosco	2,608,350	3,279,629
Caillou Island	2,266,850	1,233,657
Iowa	3,449,392	3,409,174
Leesville	2,567,830	2,614,718
Arkansas—		
Smackover	3,602,404	3,711,961
Penna.-New York—		
Bradford-Allegany	8,525,926	8,217,200
Kansas—		
Silica	1,424,569	99,768
Eldorado	1,775,025	1,967,996
Ritz-Canton	1,219,826	1,499,120
Chase	1,793,667	2,518,741
Burrton	2,469,301	4,033,090
Total 66 fields	356,268,364	329,504,504
All other fields	176,496,633	144,172,786
Total	532,764,997	473,677,290

*Includes Texas side of field.

Summary of Crude Oil Production in United States First Six Months of 1936

	1929 prod. first 6 mos. (bbls.)	1930 prod. first 6 mos. (bbls.)	1931 prod. first 6 mos. (bbls.)	1932 prod. first 6 mos. (bbls.)	1933 prod. first 6 mos. (bbls.)	1934 prod. first 6 mos. (bbls.)	1935 prod. first 6 mos. (bbls.)	1936 prod. first 6 mos. (bbls.)	No. of oil wells producing June 30	Av. daily prod. per well (bbls.)
New York	1,609,000	2,172,000	1,637,000	1,832,000	1,484,000	1,779,000	2,070,000	2,220,000	14,510	.84
Pennsylvania	5,489,000	7,344,000	5,465,000	6,427,000	5,934,000	7,764,000	7,977,100	8,043,000	79,475	.56
Ohio	3,252,000	3,390,000	2,811,000	2,357,000	2,067,000	2,086,000	2,064,000	1,919,000	33,800	.31
West Virginia	2,760,000	2,792,000	2,210,000	1,996,000	1,732,000	2,013,000	1,994,000	1,901,000	13,700	.76
Kentucky	3,464,000	3,878,000	3,176,000	2,994,000	2,216,000	2,098,000	2,647,000	2,648,000	13,600	1.07
Michigan	1,273,000	2,146,000	1,511,000	2,950,000	2,730,000	5,325,000	7,013,012	6,522,837	1,242	28.88
Tennessee	12,000	7,000	4,000	2,000	1,000	4,000	.....	.....	.....	.....
Indiana	502,000	519,000	409,000	437,000	300,000	400,000	370,000	380,000	1,540	1.35
Illinois	3,067,000	3,010,000	2,283,000	2,600,000	1,764,000	2,283,000	2,062,000	2,126,000	13,610	.86
Kansas	18,784,674	21,220,994	20,070,775	17,902,544	19,257,576	22,462,228	26,339,919	27,053,492	20,860	7.12
Oklahoma	126,020,255	117,779,527	95,838,677	77,113,805	80,157,672	91,123,782	91,029,607	97,707,445	55,015	9.76
North Central Texas	25,170,461	24,842,224	15,029,694	13,544,129	12,991,033	16,036,425	16,327,288	16,635,792	22,252	4.11
West Texas	65,533,126	58,824,487	40,690,647	32,807,924	29,228,785	24,094,946	26,471,269	29,831,964	4,448	36.85
Texas Panhandle	11,855,526	17,163,665	10,092,312	9,124,081	8,196,618	9,590,219	11,025,590	11,236,648	2,889	21.35
East Central Texas	3,712,775	5,616,731	8,877,881	9,982,024	10,338,363	8,494,287	9,023,965	9,034,861	1,876	26.46
East Texas	.....	.....	31,532,184	60,752,039	103,604,436	90,653,119	86,351,888	85,066,114	20,859	22.41
Gulf Coast	26,754,614	35,982,479	31,422,135	24,551,304	34,174,761	38,025,163	51,198,970	68,541,235	6,194	60.80
Southwest Texas	12,039,599	12,275,729	13,563,721	11,094,330	10,215,027	9,276,727	10,271,241	13,951,042	7,456	10.27
Arkansas	13,432,562	10,332,347	8,649,636	6,309,267	5,556,924	5,584,605	5,604,691	5,439,422	2,691	11.11
North Louisiana	6,449,462	7,259,246	7,227,389	5,269,165	5,235,949	4,806,844	4,179,084	12,070,265	2,852	23.25
Wyoming	9,145,923	8,927,810	7,814,930	6,602,252	5,537,278	5,802,926	6,349,226	6,454,110	3,668	9.67
Montana	1,809,606	1,646,357	1,501,846	1,196,703	1,075,239	1,399,599	1,933,704	2,683,543	1,317	11.18
Colorado	1,255,498	850,036	758,242	614,793	454,502	500,418	799,844	793,939	200	21.81
New Mexico	544,826	2,511,118	7,522,672	6,610,435	6,386,350	7,851,605	9,429,807	12,344,519	1,047	64.77
California	141,884,413	118,402,863	95,675,449	90,944,073	84,407,535	86,459,456	91,134,085	108,160,769	12,258	48.48
Total	485,821,320	468,893,613	415,774,190	396,023,868	435,046,048	445,914,349	473,677,290	532,764,997	337,359	8.68

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New York 351,266,455 bbls.; Coalinga, California, 342,852,880 bbls.; Cushing-Shamrock, Oklahoma, 326,663,581 bbls.; Oklahoma City, Oklahoma, 327,910,843 bbls., not including hot oil produced in its earlier years; Kern River, California, 303,814,091 bbls., and Salt Creek, Wyoming, 267,285,495 bbls. We have no separate record of the production of the old eastern Illinois field, which lies mainly in Clark, Crawford and Lawrence Counties, but it was responsible for the bulk of the 423,195,000 bbls. of oil which that state produced up to the close of June, 1936, and belongs among the first 10 producing fields in the United States.

The value of the oil produced in the first half of this year was approximately $586,041,500, while that of the first half of last year was about $468,940,500. The average price for crude oil in the first half of this year was about $1.09, while the average price in the first half of last year was about 99 cents.

The 337,359 producing oil wells in the country at the close of June are credited with an average production per well during the six months of 8.68 bbls. per day. The largest average production per well was in New Mexico, where 1,047 wells averaged 64.77 bbls. per well per day. East Texas wells produced an average of 22.41 bbls. per day.

Six-Year Completion Record Broken in First 6 Months

(Continued from Page 57)

through northeastern Louisiana and into Miller County, Arkansas. In Arkansas the Permian lime was shown to be productive in April when a big gasser, producing distillate, was brought in.

A great revival of operations took place in the Permian Basin fields of West Texas. Winkler County led in results, but Upton County doubled its activities compared with the same period last year. A new pool was opened in Yoakum County, the most northerly in the basin, and a gas discovery was made in Gaines County. Two quite important pools were opened in Ector County. An Ordovician discovery well was completed in Crane County. In the North and Central Texas districts a number of new pools were opened and old pools extended.

Michigan opened no important pools, but made a new gas producing record, increasing the state's gas potential from 1,000,000,000 to 3,000,000,000 feet per day.

Two oil and two gas fields were opened in California where new production reserves are sorely needed. The most important discovery was the Stevens field in Kern County, where a 600-bbl. well producing 61 gravity crude and 13,000,000 feet of gas was uncovered in June.

In Lea County, New Mexico, 227 units of 40 acres each were brought into production in the first half year, extending the Hobbs, Cooper, Eunice, Jal, Lea and Monument pools. East of Cooper and Jal wildcats opened production from sand pays. Deeper pays and extensions featured the work in Wyoming, no important pools having been found. In Colorado a pool was opened on the Hartsel anticline in Park County. One discovery was made in Fallon County, eastern Montana, and the Cut Bank field was extended.

New Refinery Construction in the Gulf Coast District

(Continued from Page 39)

Corp. patents. The installation which is costing $400,000 was contracted by Mid-Continent Engineering Corp. of Dallas. Southport is an East Texas concern, associated with Independent Terminal Co. which operate the shipping facilities at Texas City. East Texas stocks will be run in the new unit.

Republic Oil Refining Co. has completed its present program of expansion at the Texas City plant. Capacity of the refinery was doubled by addition of a 6,000-bbl. topping unit together with a vapor recovery system, and other equipment, which has been in process of construction over the past several months. No new work is being undertaken at this plant for the present.

While plans are being drafted for the proposed new polymerization plant for Humble Oil & Refining Co. at Baytown, actual construction of the units has not yet begun. Erection of this plant will be carried out as part of an arrangement with Hanlon-Buchanan, Inc., major producers of natural gasoline in the East Texas fields. Natural from plants of Hanlon-Buchanan and six other companies in the field together with butane and propane will be gathered and delivered to Baytown through a reconditioned pipe line, recently completed for operation by Humble. At Baytown, special fractionation equipment will be installed to strip the propane and butane from the gasoline, for charging to the polymerization unit. The stabilized natural gasoline fraction will be shipped to Hanlon-Buchanan markets on the coast and abroad, through facilities furnished at Baytown by Humble.

Entry of another refining company to operations on the Gulf Coast began last December, when Eastern States Petroleum Co., Inc., purchased the Houston plant of Deep Water Oil Refineries, Inc. Since that transaction, Eastern States has completely remodeled the plant, and is now operating a new 10,000-bbl. Dubbs combination skimming, cracking and reforming unit. Included in the renovation program was installation of a vapor recovery unit, and erection of new storage at the nearby refinery terminal situated on the Houston Ship Channel.

The Lower Gulf Coast, comprising the Corpus Christi, Port Lavaca and Port Isabel areas is seeing development in refinery construction, although on a much smaller scale than in the above mentioned districts. The newly constructed 5,000-bbl. topping and cracking plant of Coastal Refineries, Inc., at Port Isabel, is being expanded by addition of a vapor recovery unit. At Port Lavaca, the newly completed 2,000-bbl. skimming plant of Wood-Moore Corp. is on stream, and operators are contemplating addition of cracking equipment.

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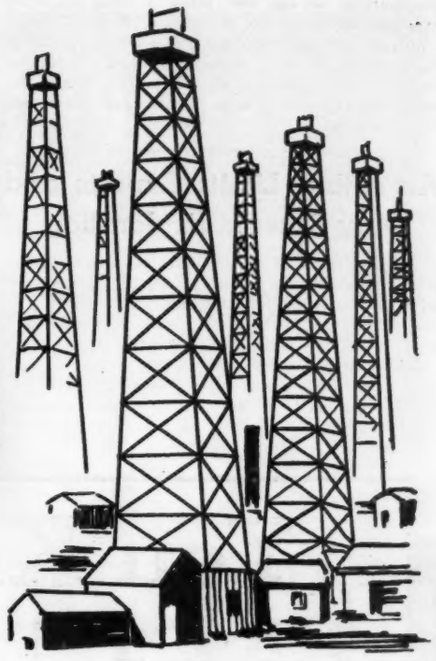

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construction, as one new plant is being projected by Amsco Refining Co. of Laredo, Tex., and major additions are planned for Corpus Christi Refining Corp. plant in that city. Expansion of harbor facilities for handling refined products, and development of production in the area are responsible for this trend.

Argentina Limits Exports and May Expand Exploration

NEW YORK, July 28.—The nationalistic Argentinian manifesto issued prohibiting exports of petroleum and imports excepting under strict government regulation has been added to the burden of oil companies operating in foreign lands.

Liquid hydrocarbon imports into Argentina will be prohibited after August 5, excepting under specific limitations to be dictated by the government based on recommendations of the (Y.P.F.) state petroleum agency. After August 5, Y.P.F. is to make quarterly findings to the Argentinian government recommending for or against imports of petroleum products, reckoned on the domestic output required to meet normal home consumption. The quantity and quality of products to be imported will be specified by the government to meet extraordinary circumstances. All imports authorized will be handled through the state oil fields department.

The state petroleum agency will reserve sufficient stocks to meet its needs and will allocate the balance of imports to register private firms at cost price, charging only the actual expenses incurred in the process of importation. Distribution of petroleum products will be handled through the state agency, but the latter may enter into special agreements with private distributors.

The ban on exports of petroleum from Argentina was made effective on date of the manifesto which was released in New York through the Argentina Information Bureau. The order was issued by the Argentine government after a special petroleum committee had confirmed that 1935 imports into the country were more than 100 per cent more than in 1934. Production of crude oil in that country also increased in 1935, but fell far short of equaling the advance in imports.

During 1935, Argentina imported approximately 21,760,000 bbls. of petroleum products consisting chiefly of gasoline and fuel oil. The break-down of 1935 imports into Argentina follows: Motor fuel (gasoline), 5,710,000 bbls.; kerosene, 1,180,000 bbls.; gas and fuel oil, 13,700,000 bbls.; lubricating oil, 320,000 bbls. and others, 850,000 bbls. Crude oil production from the Argentine was estimated at 14,600,000 bbls., during 1935, a daily average of 40,000 bbls., compared to 14,024,000 bbls. in 1934, or a daily average of 38,000 bbls.

Oil companies affected chiefly by the order are Standard Oil Co. of Argentina, subsidiary of Standard Oil Co. of New Jersey and Shell-Mex Argentina, Ltd., subsidiary of the Royal Dutch-Shell interest. American oil companies importing petroleum products into Argentina were awaiting official analysis of the order and how directly it will affect their operations before committing to a policy. However, it was evident on the face of the manifesto that marketers in world trade will probably be handicapped.

While the order made no mention of such ends, it was believed by oil men making a preliminary study of the edict's contents that the Argentine government is making a direct bid for additional exploration and development within its borders. The fact that national production falls far short of meeting domestic demand within the country makes the nationalistic interpretation on the order almost obvious.

The Argentine government no doubt will welcome expenditures of more funds within the country's borders for petroleum exploration and development. The ban on exports as well as imports also indicates to some oil men studying conditions that the petroleum agency is working on a long term program, first of virtually forcing internal exploration and then maintaining a position to force refining of the output in that country.

To Continue Connally Law

WASHINGTON, D. C., July 27.—Secretary Ickes says he probably will make recommendations to the next congress concerning extension of the Connally hot oil law, which will expire in 1937.

He declined to say whether he would suggest the law be continued only or expanded to include some form of federal control of production.

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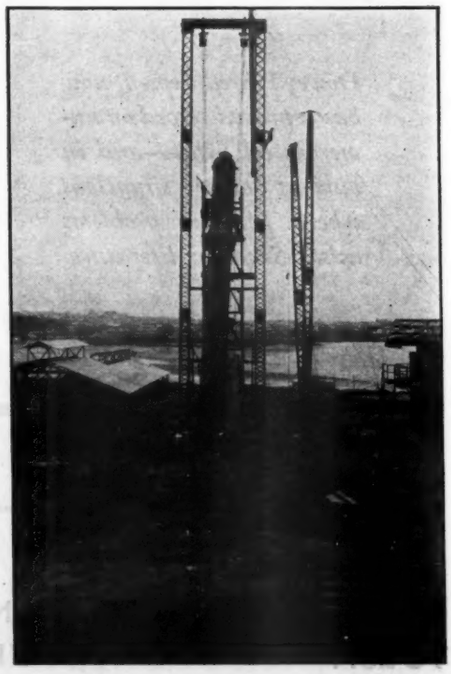

Cracking unit fractionating tower, Uruguay

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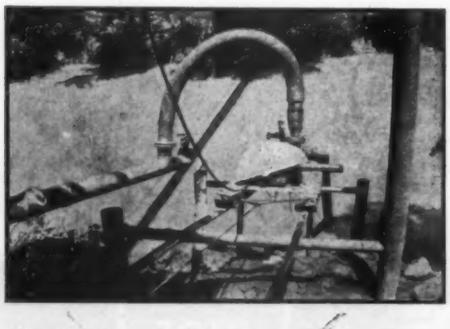
Water Flooding in District Showing

Dam being constructed for a reservoir which will impound a body of water 8 feet deep. The principal source of the water will be the Verdigris River, from which water will be pumped through a 6-inch line over five miles long

By PAUL REED

In looking over water flooding projects in operation today in Nowata and Rogers Counties, Oklahoma, and, in viewing them together with projects there in the construction stage, it can be seen that in the past year there has been a steady increase in such activity. However, this has been by no means sensational, as a glance at the accompanying map will show. The status of the situation there last year was set forth in an article in The Oil and Gas Journal, August 8, 1935. And a comparison of operations then with those today reveals that of the seven plants under construction or in operation at that time, two have since been abandoned. Two more have not yet reached the point where production is increased by flooding, due, in one case, to delays and, in the other, to difficulties encountered in flooding. Today there are three plants, which have been started in 1936, where flooding is either already under way or where it will commence soon.

The outstanding event of the past year in this area has been the entry of the Forest Producing Co. from Bradford, Pa. This company has already acquired approximately a third of the acreage there suitable for flooding. During the past two months much attention has been attracted to the remarkable increase in production obtained in the flooding of 160 acres, work on which started about a year ago. Before flooding, this quarter section produced 40 bbls. daily; today it is reported to be producing close to 3,000 bbls. However, this increase should not be taken as an indication of average results to be expected, because it was obtained in a part of the field where thickness of sand and high permeability were unusually favorable. Another project of theirs, nearly equal in size is in the process of construction in the southern part of the field near Alluwe. Other recent plants in the field are those belonging to Harmon & Whitehill, H. J. Walter Co., and the Converse Oil Co.



Motor driven centrifugal pump, protected by a cover, handling between 12,000 and 14,000 bbls. of water per day, mounted on an inclined track. This track, together with the flexible high pressure hose connection, make it possible to raise and lower the pump as the level of the creek changes rapidly

The year has been marked by a clearer appraisal of the factors to be reckoned with in flooding developments in this locality. Flooding experiments of a wildcat nature are past and present projects are characterized by careful planning and adequate equipment.

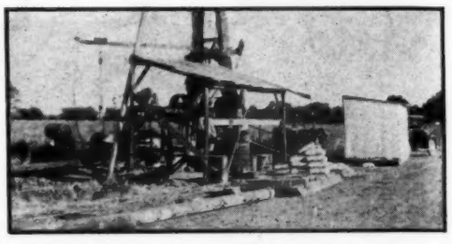
FUTURE WATER SUPPLY

The problem of the supply of water for future operations is being discussed. An application to build a dam on Big Creek is in the hands of the Conservation Commission. The purpose of this dam is to provide a supply of 300,000 bbls. daily for use in the future when certain engineers believe that present sources of water must be augmented by an additional supply, owing to the demands anticipated from additional flooding projects as this development reaches greater proportions. The proposed dam is a private project of George Travis and associates. As time goes on operators are giving attention to the appraisal of all available sources of water supply which they can reasonably count upon under conditions as they exist with present facilities. An inventory of these sources together with analyses of the waters is given in a later part of this article.

Back-washing a filter

A gradual orderly development of this field is anticipated. And some operators have expressed the belief that means of providing water will be found as fast as capital can be secured for flooding. The cautious conservatism, which has characterized the attitude toward flooding there, has been induced by reports of development costs variously given as between $1,000 and $2,000 an acre.

As an operator said, flooding is not as simple as picking up horse shoes. A number of unexpected things have been observed on some Nowata flood properties in the past year. There were cases of oil gushing up in water intake wells and of nothing but water being produced from some recovery wells, which according to all previous calculations should have produced only oil. Oil geysered up from the ground at some spots where old wells had been plugged. An aerator, supposed to remove CO_2 was found to be absorbing it, however, this was quickly corrected by a change made in its relation to exhaust from the engine. There has been unexpected trouble from water by-passing across the top of the sand. There has been trouble with casing seats when attempts have been made to flow production through the casing. On one lease where increase in production was quickly obtained, water soon appeared in such proportions that a fourth of the liquid pumped from the wells was water. A plant which has been continuously flooding at high pressure for a year has effected no increase in the oil production but it has increased the amount of water which must be pumped out of oil wells of this company in the vicinity of the project.



Intake wells are drilled close to property lines. Pipe, cement, and dog house are actually on the highway

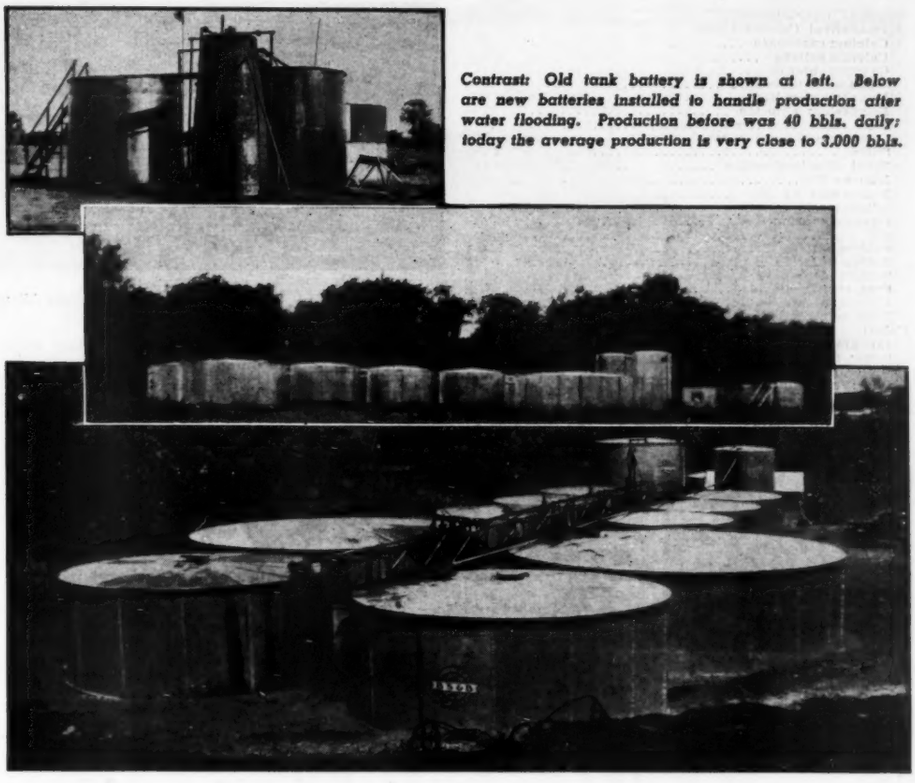
One reason for believing that flooding in this field will proceed in a gradual manner over a period of years is the fact that nearly 90 per cent of the 30,000 acres considered to be good floodable territory is held by about eight companies and individuals, Coody's Bluff, Alluwe and Chelsea pools. (Adjacent territory in the Nowata field known as Padgett, Childers and Curl Creek pools promise to eventually add 30,000 acres more to areas which will be flooded.) Three of the companies are major oil companies. Opinion is expressed by major oil company executives that flooding at Nowata is not a big company proposition at the present price of crude. Still, in some cases, flooding is being contemplated by them for the purpose of acquiring data to be used in figuring reserves which might be profitably exploited at higher price levels. Under present circumstances, small organizations and individuals with little overhead are better qualified to undertake flooding.

CARTER FLOODING

To date the Carter Oil Co. is the only major oil company flooding in the field. Even in this case the work was originally undertaken in 1931, first under the direction of Bert Collins and later under that of Donald P. Oak. This was the first experiment in flooding on any scale in the field. Collins and Oak carried this on as individuals, giving engineering services for an interest in the lease. Today this property is producing 115 bbls. a day; five years ago it produced 25 bbls. before flooding started.

Most of the property acquired in this area for flooding has been obtained on an interest basis. In some cases, it is reported, the seller is guaranteed production minus operating expense, on a fixed rate over a period of years until actual increases from flooding are great enough to exceed an over-riding royalty, which will be paid from then on. There are also reports of an arrangement by which income on a basis of present production is guaranteed for a period of years and the seller does not participate in the increase until

Nowata Increase



Contrast: Old tank battery is shown at left. Below are new batteries installed to handle production after water flooding. Production before was 40 bbls. daily; today the average production is very close to 3,000 bbls.

it has gone above a certain amount, at which time he is paid an over-riding royalty.

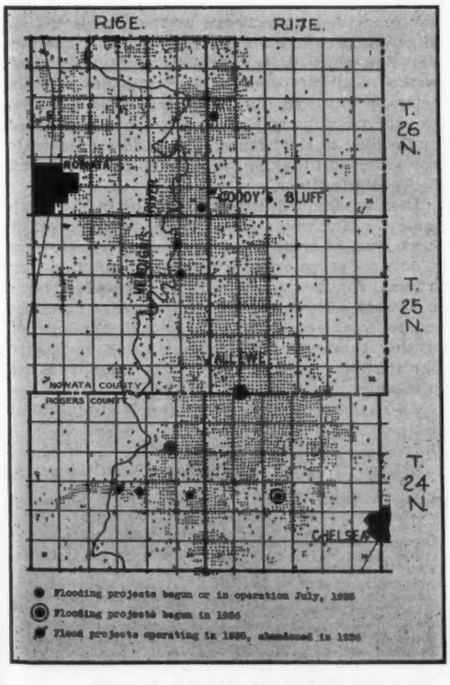
In instances where production is offered for a straight sale, it is done on an acre basis and not on a barrel basis. Prices for production in the best parts of the field are quoted between $300 and $350; this amounts to about $1,200 to $1,500 a barrel. On the edges of the field, where wells have been plugged, prices quoted are $2.00 to $2.50 an acre.

Drilling costs 75 cents to 90 cents a foot. Depth of wells varies between 400 and 600 feet. A drilling machine can complete, to cementing, two wells a week. A number of wells now being drilled have tubing cemented to the top of the sand to facilitate flowing the production. In these instances, casing is not used. In shooting, two different practices are followed by operators. Some use 1 quart of nitroglycerin to the foot of sand for both intake and recovery wells. Others use 1 quart to the foot for intake wells and 2 quarts to the foot for recovery wells.

Three systems of well spacing have been adopted for the five-spot patterns of recent projects. These are: (1) 330 feet, (2) 440 feet, (3) a spacing of approximately 330 feet in one direction and 440 feet in the other. These spacings result in there being about one well to the acre, counting both oil wells and water wells.

DEVELOPMENT COSTS

A rough idea of what initial development costs amount to can be given by adding, as distributed plant cost, $150 per well to drilling and shooting costs, amounting to from $600 to $800 per well (not including pipe in the well or on the surface). It is unlikely that initial development costs can be figured under $800 to $1,000 per well, or per acre. Operators report that actual development costs total between $1,200 and $1,500 per well. Cases are cited where this has run close to $2,000 an acre.



Map showing flooding activities

Operators in the field speak of flooding as they would a highly technical manufacturing business. Water is the tool used and they believe their requirements can be predicted with some certainty. When all the plants shown on the map are put in operation it is expected that they will be using between 40,000 and 50,000 bbls. a day.

A canvass of the operators, to get their views, reveals that there is a prevailing confidence in the adequacy of sources of supply for the future.

Leaving out of consideration the obvious advantages of using water from a reservoir at the proposed dam site on Big Creek, they believe that the possibilities of sources of supply available in the fields have not been fully explored as yet.

Big Creek and the Verdigris River at present furnish water in the largest volume. To take full advantage of this, one operator has predicted that a river improvement association will be formed to control the impounding and distribution of water from this source. An analysis of Verdigris River water is given below:

WATER ANALYSIS

Source: Verdigris River

	Parts per million
Physical Characteristics:	
Suspended matter	10
Turbidity	10
Chemical Characteristics:	
Total hardness as $CaCO_3$	308
H (comp.)	308
Calcium hardness as $CaCO_3$	262
Magnesium hardness as $CaCO_3$	46
Alkalinity (M) as $CaCO_3$	204
Alkanility (P) as $CaCO_3$	....
Hypothetical Combinations:	
Calcium carbonate	204
Calcium sulfate	79
Calcium chloride	....
Magnesium carbonate	....
Magnesium sulfate	28
Magnesium chloride	22
Iron oxide unfiltered sample	n.d.
(sample filtered through paper)	0.7
Silica	7.0
Suspended matter	10
Total dissolved solids	537
Sodium salts	196
Iron as Fe	0.5
Manganese as Mn	n.d.
Mineral acidity	....
pH	n.d.
Sodium sulfate	....
Sodium chloride	196
Sodium carbonate	....
Free carbon dioxide	5.0
Physical Characteristics:	Parts per million
Hydrogen sulfide	....
Total sulfates, chlorides and sodium carbonate	325
Color:	
(apparent as received)	slight yellow
(after filtration through paper)	n.d.

The best of present sources being used, from the standpoint of quality, is the gravel, reached at a depth of 30 to 40 feet, which extends along the river, though apparently independent of it, for a distance of six miles from Coody's Bluff to Alluwe. The area where this gravel is to be found is limited.

The filter plant at the left is being built across the road from compressor plant operated by this company in recent years and which will continue to repressure properties in the vicinity on which flooding has not yet commenced

While sufficient water for present needs is furnished to some leases drawing their supply from this source, there are other leases where this must be supplemented by water drawn from the river. It has been considered necessary to remove iron from this water. An analysis of the gravel water is given below:

WATER ANALYSIS

Source: Gravel well

	Parts per million
Physical Characteristics:	
Suspended matter	200
Turbidity	200
Chemical Characteristics:	
Total hardness as $CaCO_3$	313
Calcium hardness as $CaCO_3$	275
Magnesium hardness as $CaCO_3$	38
Alkalinity (M) as $CaCO_3$	280
Alkalinity (P) as $CaCO_3$	0.0
Sodium salts	67

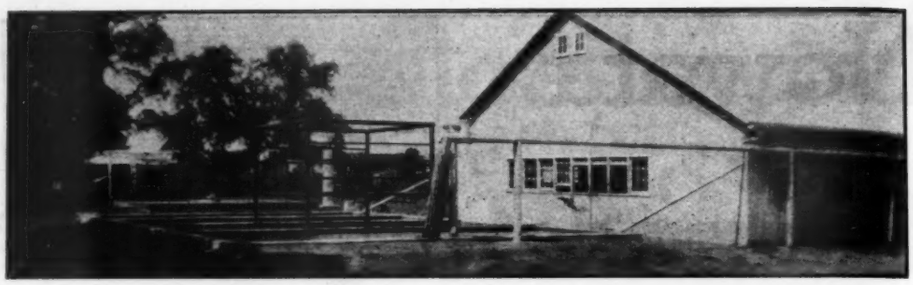
(Continued on Next Page)

Physical Characteristics:	Parts per million
Hypothetical Combinations:	
Calcium carbonate	275
Calcium sulfate	0.0
Calcium chloride	0.0
Magnesium carbonate	4.0
Magnesium sulfate	6.0
Magnesium chloride	27
Iron oxide (unfiltered sample)	4.6
(sample filtered through paper)	n.d.
Silica	19
Total dissolved solids	403
Iron as Fe	3.2
Manganese as Mn	n.d.
Mineral acidity	0.0
Oxygen consumed	n.d.
pH	6.7
Sodium sulfate	0.0
Sodium chloride	67
Sodium carbonate	0.0
Free carbon dioxide	45
Hydrogen sulfide	n.d.
Total sulfates, chlorides and sodium carbonate	100
Color:	
(apparent as received)	yellow
(after filtration through paper)	4.0

*Color due to iron bearing silt.
Odor: Very faint moldy.

Although drilling so far indicates that there is no gravel immediately west of the Verdigris, it is known that a short distance further west gravel deposits are found that appear promising as one source of future supply.

Six, and possibly more, fresh water sand leases exist within the field. The H. J. Walter Co. at their new plant on the Collins lease in 21-24-17 expect to draw a considerable part of its water supply from such a lens at a depth of 120 feet, which will be pumped to a reservoir formed by daming a draw. An analysis of water from one of these leases is given below:



New treating, filtering, and pumping plant

WATER ANALYSIS

Source: 120 feet sand lens

Physical Characteristics:	Parts per million
Suspended matter	13
Turbidity	13
Chemical Characteristics:	
Total hardness as $CaCO_3$	20
Calcium hardness as $CaCO_3$	2.0
Magnesium hardness as $CaCO_3$	18
Alkalinity (M) as $CaCO_3$	442
Alkalinity (P) as $CaCO_3$	7.0
Sodium salts	656
Hypothetical Combinations:	
Calcium carbonate	2.0
Calcium sulfate	0.0
Calcium chloride	0.0
Magnesium carbonate	15
Magnesium sulfate	0.0
Magnesium chloride	0.0
Iron oxide (unfiltered sample)	0.9
(filtered through paper)	n.d.
Silica	11
Total dissolved solids	685
Iron as Fe	0.6
Manganese as Mn	n.d.
Mineral acidity	0.0
Oxygen consumed	n.d.
pH	8.3
Sodium sulfate	3.0
Sodium chloride	206
Sodium carbonate	447
Free carbon dioxide	0.0
Hydrogen sulfide	n.d.
Total sulfates, chlorides and sodium carbonate	656
Color:	
(apparent as received)	slight yellow
(after filtration through paper)	2.0

*Color due to organic matter, fine sand and a little iron oxide.
**Faint oily.

Some artesian water is reported to be available by an operator who has investigated the matter.

Although sulfur water from Ordovician siliceous lime, at a depth of 1,500 feet, was discarded as a source of supply by the Forest Co. in the fall of last year when they began to flood, it is not at all certain this unlimited supply is out of the picture altogether. It is true that trouble soon came as the result of deposits of magnesium salts in meters, pumps and lines. No time could be taken for experimenting as the company's program called for flooding to start immediately and consequently they switched to taking water from Big Creek and the Verdigris River.

Results obtained in recent months in the treatment of sulfur water (in other fields where sulfur water must be treated for disposal purposes), have encouraged operators to believe that a solution may be found for the proper treatment of sulfur water at Nowata. However, such an experiment might require weeks or months. Although the cost of treating this sulfur water is sure to be higher than that of any other supply in the area, it is not anticipated that it will be prohibitive.

An analyses of this sulfur water is given below:

WATER ANALYSIS

Source: Brine from Ordovician Siliceous lime

Physical Characteristics:	Parts per million
Suspended matter	17
Turbidity	17
Chemical Characteristics:	
Total hardness as $CaCO_3$	6042
Calcium hardness as $CaCO_3$	3887
Magnesium hardness as $CaCO_3$	2155
Alkalinity (M) as $CaCO_3$	447
Alkalinity (P) as $CaCO_3$	0.0
Sodium salts	29800
Calcium carbonate	447
Calcium sulfate	526
Calcium chloride	3390
Magnesium carbonate	0.0

(Continued on Next Page)

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Rams of the Cameron Type SDA Pressure Operated Blowout Preventer, above, are opened and closed instantly by fluid pressure. Pipe is centered automatically, and packing fed out to pipe automatically as needed. No other blowout preventer is so fast, positive or thoroughly dependable.

The Cameron Self-Feeding Ram Packing Element, above, contains many cubic inches of packing material in reserve—subject to being fed out to the pipe automatically as needed.

At Corpus Christi, recently, a drilling contractor accidentally closed the 7-inch casing rams of his 13⅜-inch Cameron Type SDA Blowout Preventer around a collar of the 7-inch oil string instead of the pipe. Notwithstanding the rams were designed to seal-off only around the pipe, they sealed and held 500 lbs. pressure while a cement collar was pumped in between the 13⅜-inch and the 7-inch oil string at the surface.

An unretouched picture of the collar is shown above.

This incident proves better than words or pictures that Cameron Self-Feeding Ram Packing Elements actually have a large reserve of packing material built into them, and that it is automatically fed out to the pipe when occasion requires. No other blowout preventer on the market has this feature. Complete details gladly furnished on request.

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Physical Characteristics:	Parts per million
Magnesium sulfate	0.0
Magnesium chloride	2050
Iron oxide (unfiltered sample)	0.3
(sample filtered through paper)	n.d.
Silica	15
Total dissolved solids	36228
Iron as Fe	0.2
Manganese as Mn	n.d.
Mineral acidity	0.0
Oxygen consumed	n.d.
pH	6.7
Sodium sulfate	0.0
Sodium chloride	29800
Sodium carbonate	0.0
Free carbon dioxide	204
Hydrogen sulfide	185
Total sulfates, chlorides and sodium carbonates	35766
Color:	
(apparent as received)	slight green
(after filtration through paper)	45
Odor: hydrogen sulfide.	

Another supplementary source of supply not to be overlooked is the water produced with the oil, as flooding proceeds. If the development of the field, is gradual as it promises to be, this source will be of growing importance in the later stages. Experience shows that such brines can be treated along with fresh water, without difficulty.

The prevailing attitude toward water treatment in this field now is that it is solely for the purpose of removing turbity and stabilizing so that nothing

As part of the system for returning salt water back into the sand through the intake wells, this motor driven centrifugal pump lifts water from a 40-bbl. sump. Sump receives salt water draining from tank batteries

will be precipitated out of the solution to clog the sand. The pores of the sand, even where the porosity is high, are small and in some cases ultramicroscopic in size. In other words, present treatment of water there is aimed only at increasing the mechanical efficiency of the water drive. Looking into the future there is the expectation that research studies being carried on elsewhere will discover means of obtaining greater yields from the sands by the addition of solvents, at a reasonable cost, which will have greater affinity for the sand than the oil does.

As yet the nature of the connate water has not entered into consideration in devising the treating methods now used in this field. Only where connate water contains barium or strontium is the analyses of connate water given attention. If the connate water contains barium or strontium the flood water should not contain sulfates.

Below is given an analysis of connate water in the Bartlesville sand which is being flooded in this area:

WATER ANALYSIS

Source: Connate water, Bartlesville sand, Nowata

Physical Characteristics:	Parts per million
Suspended matter	760
Turbidity	760
Chemical Characteristics:	
Total hardness as $CaCO_3$	8860

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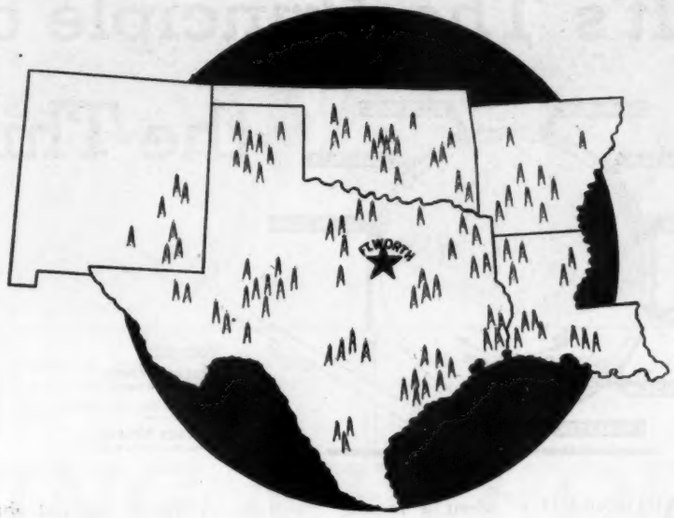

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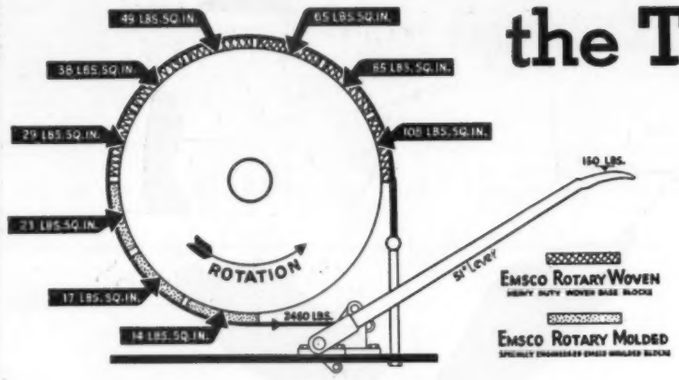
It's The Principle of the Thing



ORDINARILY when a manufacturer announces a NEW brake lining that's supposed to knock the oil industry off its chair, the new lining turns out to be the same old lining except that there's a red stripe in it . . . or else it comes in a new kind of box . . . or maybe it features a drop-stitch weave. Usually there's nothing new about its performance.

Emsco Engineered Rotary introduced an entirely new braking principle that cuts drilling costs by increasing the life of both linings and brake drums.

That dull looking diagram explains it. Braking pressure is not the same at each point on the band. So—we recommend two braking actions. A lightly applied abrasive action that keeps drum surfaces smooth *plus* the definite smooth-stopping action of Emsco Woven. Emsco Engineered is not just a combination of woven and molded blocks. It is an engineered balance of braking actions . . . unique enough to win Uncle Sam's patent number 2,033,968. Try it, and you'll re-order but not too soon.

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Physical Characteristics:	Parts per million
Calcium hardness as $CaCO_3$	6100
Magnesium hardness as $CaCO_3$	2760
Alkalinity (M) as $CaCO_3$	314
Alkalinity (P) as $CaCO_3$	0
Sodium salts	44320
Hypothetical Combinations:	
Calcium carbonate	314
Calcium sulfate	150
Calcium chloride	6300
Magnesium carbonate	0.0
Magnesium sulfate	0.0
Magnesium chloride	2620
Iron oxide (unfiltered sample)	42
(sample filtered through paper)	n.d.
Silica	7.0
Total dissolved solids	53754
Iron as Fe	30
Manganese as Mn	n.d.
Mineral acidity	0.0
Oxygen consumed	n.d.
pH	6.4
Sodium sulfate	0.0
Sodium chloride	44320
Sodium carbonate	0.0
Free carbon dioxide	171
Hydrogen sulfide	n.d.
Total sulfates, chlorides and sodium carbonates	53390
Color:	
(apparent as received)	*black
(after filtration through paper)	7.0

*Color due to oil.
Odor: Gasoline.

Methods of preparing water for flooding may be divided into two classes: (1) Filtering with the use of alum; (2) similar treatment supplemented by sludge treatment.

Description of these two methods will appear in early issues.

Natural Gas Recovery in Russia

The chief engineer of the Grosneft petrol plants, Titarenko, stated in the journal of the People's Commissariat for Heavy Industries, "Sa Industrialisaziu," that with the exception of the territory controlled by the Grosneft, nowhere in Russia is due attention being paid to the utilization of natural gas. He said that about 70 per cent of Russian petroleum is produced without proper treatment of the wells so as to prevent the escape of gas. The crude oil is piped from the wells to open reservoirs, by which much of the gas it contains is lost. He stated that the loss of these defective production methods is equal to about 5 per cent of the total crude produced, or to about 1,000,000 tons annually.

Also incorporated in his long statement was the fact that about 9,000,000 tons of oil per annum are produced in Russia by the air-lift process. This he describes as "a barbarous method of production," which causes huge losses of the lighter constituents of the crude—as well as of gas. These losses, he stated, amounted to about 1,000,000 tons of gas and volatile fractions. About 300,000 tons annually are also lost by the storage of crude oil in open tanks at refineries, in tankcars and in tankers.

In comparing production practices in Russia with those in the United States, Titarenko stated that the quantity of gas obtained is equivalent to 20 to 30 per cent of the oil produced. Therefore, if 25 per cent be regarded as normal, the equivalent of no less than 6,000,000 tons of additional crude could be saved in Russia. Actually the Russian oil companies recover only some 2,000,000 tons of this quantity, he said.

Type of single well jack used with a central power in pumping shallow wells

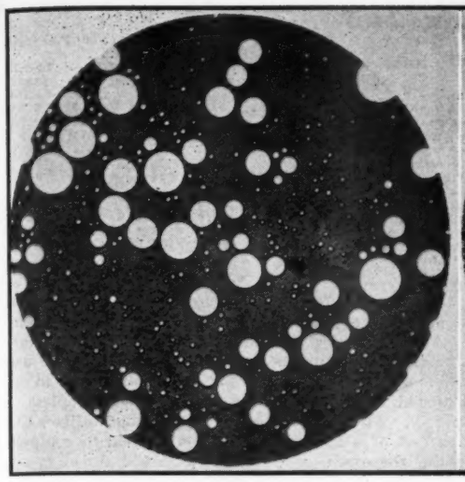

Fig. 1—Microphotograph of loose emulsion in low gravity oil. San Joaquin Valley oil, gravity 14.5° A.P.I. Water content 40 per cent

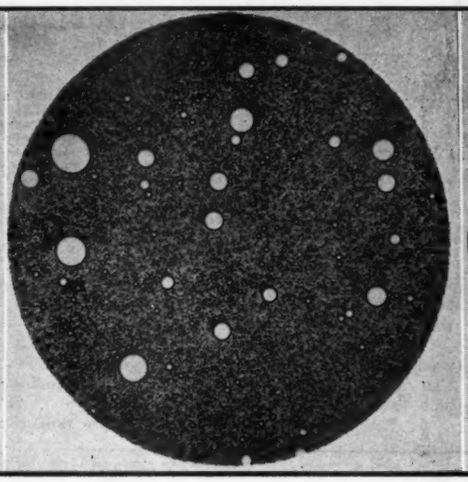

Fig. 2—Microphotograph of crude oil emulsion with lower ratio of loose emulsion. Oil gravity 14.5° A.P.I. Water content 24 per cent

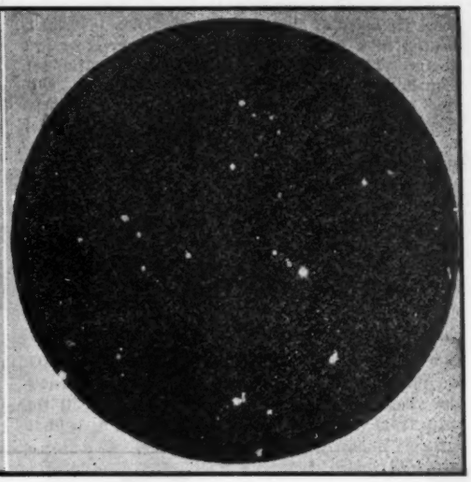

Fig. 3—Microphotograph of tight gas-blown emulsion. Oil gravity 28° A.P.I. Water content of the emulsion reported as 24 per cent

OIL TREATING METHODS

By D. H. FORTINE
Production Foreman, Barnsdall Oil Co.

The purpose of this paper is to present some of the more recent developments in crude oil dehydration practices. The highly technical subject of emulsion theories will be discussed no more than enough to elucidate the problems involved in the separation of water from crude oil emulsions.

CHARACTER OF EMULSIONS

An emulsion is a stable dispersion of one liquid in another. Mr. C. H. M. Roberts states that the factors which appear indispensable for the formation of an emulsion are, first, the two liquids be mutually immiscible; second, that there be suitable agitation to cause the dispersion of one liquid in the other; and third, that there be present in one liquid—or in both—some substance or substances which have the property of protecting the liquid—liquid interface, so as to prevent contact and coalescence of the droplets of the dispersed phase. This protective substance is called the emulsifying agent.

A crude oil emulsion may be one of three types: Water dispersed in oil, oil dispersed in water, or a combination of these two. The present discussion deals with the water in oil, or, normal type. The other two types are not often found in oil field emulsions. Figures 1, 2 and 3 illustrate typical crude oil emulsions. Figure 1 shows a low gravity crude with a high percentage of loose emulsion, the sample in Figure 2 contains less loose emulsion and more tight emulsion, and Figure 3 is an example of a tight gas-blown emulsion.

Immiscible Liquids. In a wet oil well we have the first factor necessary for the formation of an emulsion, the immiscible liquids oil and water. The term "water" is used rather loosely to refer either to pure water or, most commonly, to an aqueous solution of mineral and/or organic materials. (Expensive well repair work is usually the only method of eliminating this factor, and is not always feasible.) If the oil and water are from separate sources, this factor can sometimes be eliminated by well repair work.

Agitation. Agitation should be eliminated as far as possible, consistent with the necessity of intimately mixing chemical with the emulsion when a demulsifying chemical is used. There may be some emulsification as the oil and water enter the hole from formation, but this is believed to be negligible. The well pump appears to be the main source in pumping wells. Emulsions almost always are more easily broken down when well pumps are maintained in good condition. The tubing, tubing footpiece or other devices produce agitation, particularly in flowing and gas lift wells. The flow bean, when used, is a potent agitator. Emulsions may be formed, or their stability increased, in various surface facilities through which the production must pass. Line pumps especially are offenders in this respect. It is reported that positive displacement pumps cause less violent agitation than centrifugal or other types of pumps. The pump used, regardless of type, should be kept in good repair so that a minimum amount of slippage occurs[3].

The foregoing discussion of agitation may be thought to be superfluous, but is included because of the growing realization of the importance of preventative measures in the treatment of emulsions. In one case, which may be cited as an example, the treating costs were cut in half by an alteration in pipe line connections.

Emulsifying Agent. The third factor involved in the formation of an emulsion appears to be the least understood. Numerous theories have been advanced regarding the nature and action of the emulsifying agent, the substance or substances which form the interfacial films or envelopes surrounding the dispersed droplets. For purposes of this paper it will suffice to say that there are known methods for weakening the films and facilitating coalescence of the dispersed particles, although the exact manner in which these methods accomplish their results may not be understood completely. Chemicals which have this function are available. Properly controlled subjection of the emulsion to the influence of a high potential electric field is another means.

***A.P.I.*—Read before the Pacific Coast Production Division of the Institute at Los Angeles. Published in two parts. Second part to appear in the next issue**

TREATING METHODS

Practically all crude oil emulsion treating methods utilize the force of gravity, by reducing the viscosity of the oil and coalescing the water particles into larger droplets so that they will settle to the bottom.

Some of the methods which have been used are as follows:

1. Squeeze trap. The water is removed in a squeeze trap, often in conjunction with chemical treatment, before the oil and water have a chance to more tightly emulsify by passage through the flow bean. This method is applicable particularly to emulsions from gas lift and flowing wells. It is not used very generally at present.

2. Settling method, with heat applied to re-

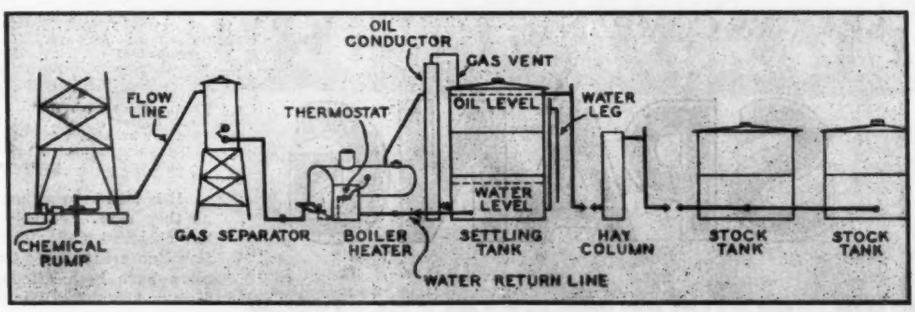

Fig. 4—Typical chemical treating plant

duce viscosity of the oil. The emulsion usually is heated in a tank, either with steam coils or live steam. The water is then allowed to settle out. Chemical is often required. The practice of "rolling" a tank of emulsion with live steam has been discarded in most plants because of its tendency to form a tighter emulsion, although in some cases the agitation caused by the steam may be desirable for mixing chemicals with the emulsion. The settling method is adaptable to coarse emulsions in heavy crudes, where the main problems are to increase the gravity differential between the oil and water and to decrease the viscosity of the oil so that the water will settle out.

3. Distillation Method. The principle of fractional distillation has been applied to the dehydration of crude oil emulsions, but has not proven very successful. It is usually expensive, increases the viscosity of the oil, and leaves in the oil the salts from the water. The method may be said to be limited, therefore, to emulsions in which the water is relatively soft.

4. Centrifuge. Large centrifuges have been used to clean emulsions in commercial quantities. The method has not gained popularity, due to its high cost and limited applicability.

5. Filter Presses. Some emulsions are broken down when forced through filters. The method does not appear to be practical on a large scale.

6. Chemical method. The fundamental characteristic of this method of dehydration is the use of selected chemicals for weakening the interfacial films surrounding the dispersed droplets.

7. Electrical Method. This method utilizes the effect of a high potential electric field to coalesce the dispersed droplets.

The chemical and electrical methods are the two most commonly used in the dehydration of crude oil emulsions, and will be described more fully. Figure 4 illustrates diagrammatically a typical chemical treating plant. Two types of electrical plants are shown in Figures 5 and 6. Preliminary treatment of the emulsion often is similar in the chemical and electrical processes, and so practices and plant units more or less common to the two methods will be described first.

TABLE 1.—GRAVITY LOSSES[3]

Sample No.	Field—	Temp. of oil to tank °F.	Method of Oil Entering Tank—	Gravity at 60° F. Cent-chem. grav. of wet oil	Gravity at 60° F. Dehy. oil grav.	Gravity at 60° F. Shipping grav.	Loss in grav. °A.P.I.
1	Signal Hill	150°	Oil enters through ell at open manhole at top of tank ..	24.5	24.4	22.3	2.2
2	Signal Hill	140°	Oil enters through ell at open manhole at top of tank ..	28.9	....	28.0	0.9
3	Signal Hill		Oil enters through ell at open manhole at top of tank ..	29.5	....	28.6	0.9
4	Signal Hill	125°	Oil enters through ell at open manhole at top of tank ..	30.2	29.7	28.2	0.9
5	Signal Hill	120°	Oil enters at bottom of tank open manhole at top	30.1	29.9	29.7	0.4
6	Hunt. Beach	140°	Oil enters at top of vapor tight tank	24.1	24.1	23.9	0.2
7	Torrance	150°	Oil enters top near open manhole	17.5	....	17.5	0.0
8	Torrance	165°	Oil enters top near open manhole	18.9	19.1	18.7	0.2
9	Signal Hill	145°	Oil to bottom at center of tank through overshot. Open 6"	22.9	23.0	22.8	0.1
10	Signal Hill	148°	Oil enters at bottom of vapor tight tanks	25.2	25.1	25.1	0.1
11	Signal Hill	120°	Oil enters at bottom of vapor tight tanks	25.2	25.1	25.1	0.1
12	Venice	80°	Oil enters at top of vapor tight tanks	22.7	21.9	21.6	0.3

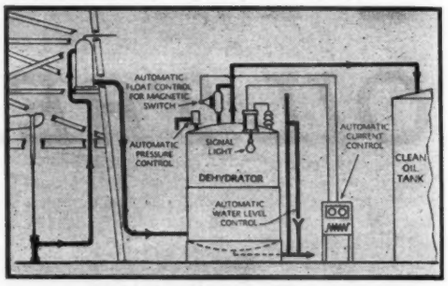

Fig. 5—Diagram of flow-line method of electric dehydration plant

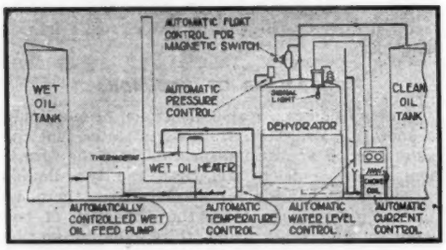

Fig. 6—Diagram of tank method of electric dehydration

TABLE 2—HEATERS UTILIZING THE WASTE HEAT FROM GAS ENGINES[4]

Type of heater—	Circ. wtr. A	Circ. wtr. B	Exhaust C	Exhaust D
Production, bbls. per day wet oil	300	110	120	252
Per cent water in wet oil	70	33	45	16
Temp. wet oil to heater (°F.)	121	105	100	97
Temp. wet oil out heater (°F.)	129	139	134	116
Temp. increase (°F.).	8	24	34	19
Temp. of circ. water to heater (°F.)	141½	161	...	...
Temp. of circ. water out heater (°F.) ...	146	137	...	...
Bbls. per hr. circ. wtr.	53.5	16.15	...	...

EFFECT OF AGE

It is well known that emulsions tend to stabilize as they age. For this reason the trend in both the chemical and electrical processes is towards flow-line treatment. Decided savings in treating costs have been effected by changing from the tank or "batch" system to the continuous flow system in which the emulsion is given no chance to age while standing in a tank awaiting treatment.

Fig. 511

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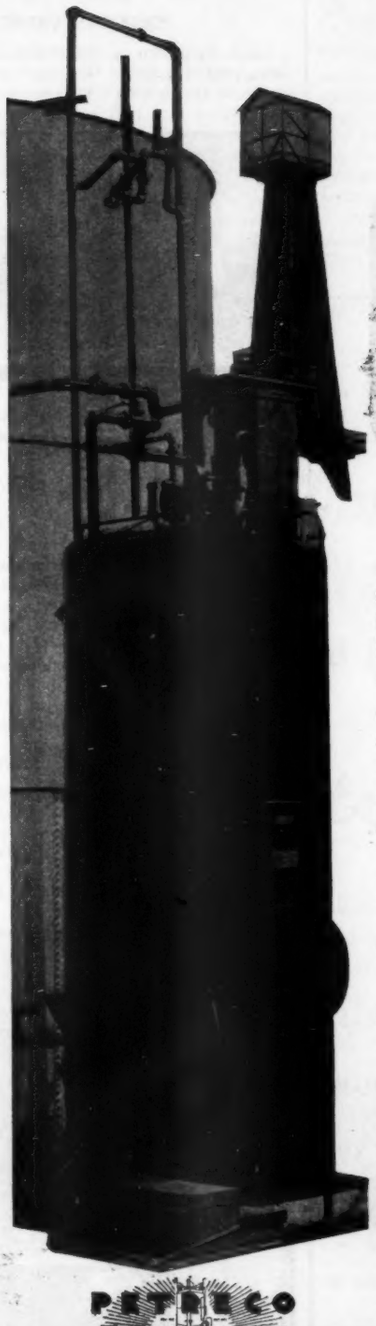

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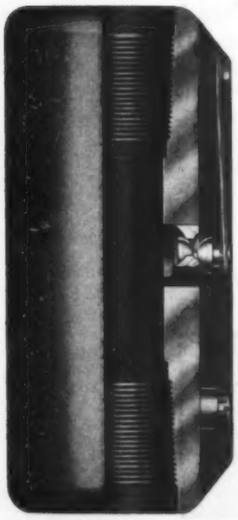

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Where it is necessary to gather the emulsion in a "wet oil tank", the storage period should be reduced to a minimum. An illustration conveniently at hand is that of a sample sent to the laboratory for chemical treatment. A chemical-oil ratio of 1:5000 (by volume) cleaned the emulsion when it was two hours old. Three days later a ratio of 1:3000 was necessary to break it.

CHOICE OF CHEMICAL

The first step in the dehydration of an emulsion, particularly in the chemical method, is the choice of the demulsifying chemical. The electrical

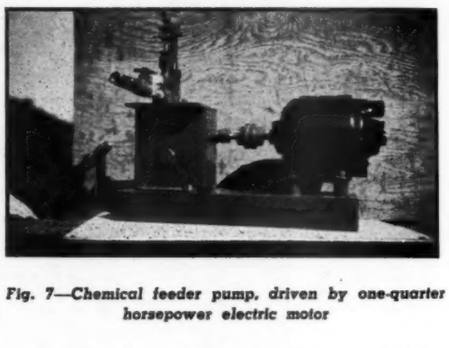

Fig. 7—Chemical feeder pump, driven by one-quarter horsepower electric motor

method usually requires chemical in relatively small quantities, if at all. It has been found that the chemical chosen as being most efficient for a given emulsion ordinarily will be the one best suited to that emulsion throughout the life of the well. Exceptions are encountered, especially when a decided temperature change occurs in the production of a well. Then too, new chemicals are being developed, and a new one may be found to be more suitable. The chemical to be applied usually is selected in the laboratory. Sometimes a chemical is picked by actual field trials from a small group previously selected in the laboratory.

INJECTION OF CHEMICAL

In the treating system in which the emulsion is gathered in tanks before treatment (hereafter called the tank system), the chemical is sometimes added to the emulsion in the tanks. The more common practice in this system is to inject the chemical at some point in the line between the

Fig. 8—Chemical feeder pump, driven by waking-beam

TABLE 3—SOME RESULTS REPORTED OBTAINED WITH OPEN THERMOSYPHON SYSTEM USING A VERTICAL HEATER (OSCAR V. BURRIS)

Plant—	A	B	C	D	E
Production, bbls. per day wet oil	450	550	195	225	60
Per cent water in wet oil	60	70	8	65	60
Dry gravity of oil at well, °A.P.I.	21.7	23.2	21.8	21.6	15.2
Temperature at well, °F.	110	125	80	90	70
Settling tank temp., °F.	155	160	150	150	180
Temperature of cleaned oil, °F.	105	106	106	100	110
Chemical consumption, quarts per day	3	3	4	1.5	0.5
Maximum per cent water in cleaned oil	2	1	1.8	1.6	2.6
Gravity of cleaned oil, °A.P.I.	21.2	23.1	21.6	21.2	15.0

tank and the treating unit, usually in the treater feed pump suction in the electrical dehydration method. One advantage of placing the injector at the feed pump suction is that this permits addition of chemical at one point to emulsions from various tanks on the property. Also, if a pump chemical feeder is used, it may be actuated by the treater feed pump.

Better treating results are obtained, as a rule, when the chemical is introduced at the well, either between casing and tubing, or in the flow-line. This does not always hold true, for in a few cases some re-emulsification occurs before the production reaches the treater. Injection at the wells may increase the investment in equipment, but this increase generally is more than compensated for by the increased plant efficiency when chemical cost is an appreciable item, as in the chemical treating method.

In many wells it is advisable from a mechanical standpoint to introduce chemical down the hole. Some gas lift wells produce such a viscous emulsion

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that the gas pressure required to lift it is more than can be safely produced by the compressor plant. In many wells of this nature the introduction of chemical down the hole has reduced the viscosity of the emulsion and, in turn, decreased the gas pressure required. An example of a similar problem in a pumping well is that of a well pumping about 600 bbls. per day gross, water content approximately 90 per cent, with a 3-foot pump at about 5,000 feet. The viscosity of the emulsion produced was so great that the multi-cylinder gas engine used as a prime mover would not pump the well 21 strokes per minute. The pump when operated at lower speed would not lift 600 bbls. per day. A chemical of low solubility in oil and water had been used for treating the emulsion. In order to reduce the pump load, a water soluble chemical, diluted to a 1 per cent solution, was introduced down the casing. The emulsion produced began to show free water where none had been apparent before, and the viscosity of the emulsion

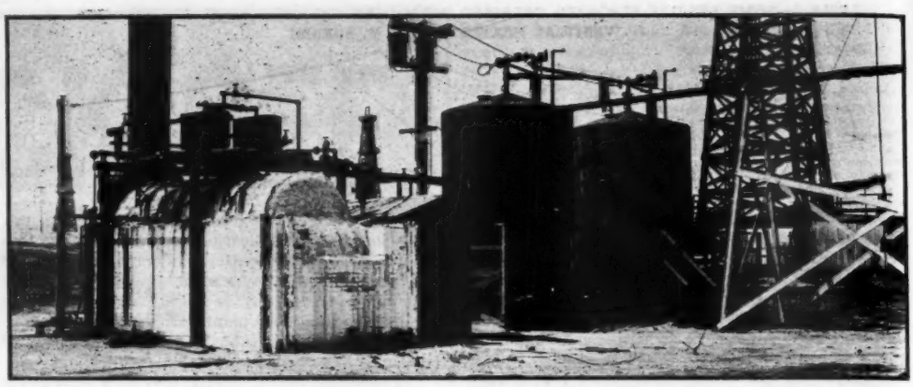


Fig. 13—Tubular boiler production heater

decreased decidedly. The engine was able to pump the well at the desired rate. The load on the reduction unit was noticeably lessened. The water soluble chemical was not nearly as efficient in cleaning the emulsion to pipe line oil, however, as the insoluble chemical had been. Both chemicals are now used, one to lighten the polished rod load, the other to aid the treating process.

One of the problems encountered in down the hole injection is the mechanical difficulty of introducing a small volume of chemical in such a way that it will be uniformly distributed through the emulsion. Water soluble chemicals which can be diluted to large volume are most adaptable. Unfortunately, one of the chemicals most universally efficient in the chemical method of treating is practically insoluble in either oil or water. One method of handling this chemical is to keep it suspended in oil by means of suitable agitation. This may be done by turning a small amount of gas through the suspension. Chemical suspended in oil is used in gas lift wells especially, in which the high pressure gas has a detrimental effect upon a water disolved chemical. Down the hole treatment in flowing wells has not produced very satisfactory results.

Chemical concentration in the water solutions usually used for down the hole injection ranges from 0.5 per cent to 5 per cent of chemical by volume. Soft water is preferred for mixing the solution, because hard water reduces the effectiveness of the chemical.

The chemical or solution is injected by various means. Many plants use lubricators for the purpose, but these are hard to regulate, and cannot be depended upon to feed uniformly. Feeder pumps are preferable, and are necessary when small volumes of undiluted chemical are used. It is very important, in most chemical treating plants, that the chemical be fed to the emulsion in a small, steady stream. Recently developed chemical feed-

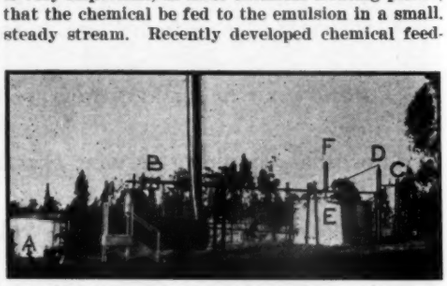
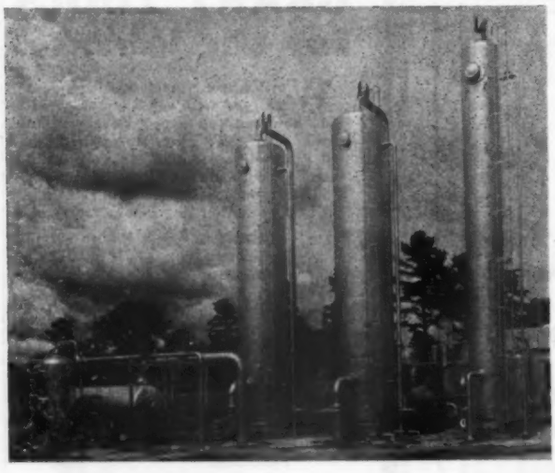
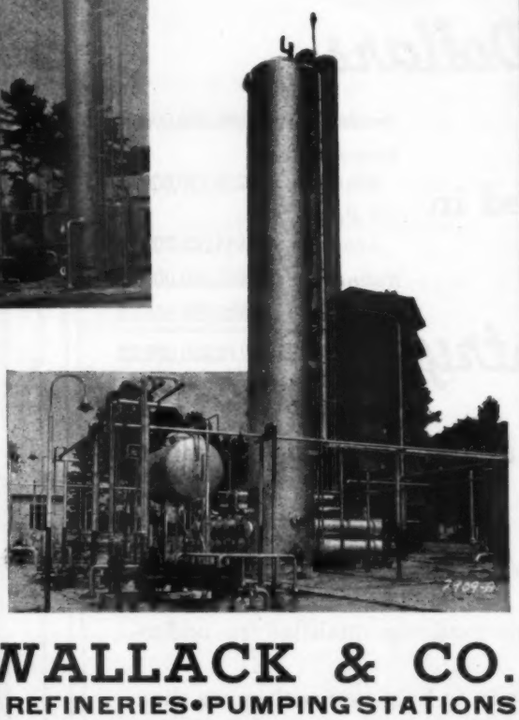


Fig. 9—Chemical treating plant: (A) Thermostat valve; (B) pressure relief valve; (C) gravel column; (D) conductor; (E) washtank; and (F) vapor condenser

er pumps have proven very reliable, and have caused very little maintenance trouble. These pumps may be driven by small electric motors and reduction gears, as shown in Figure 7, or may be actuated by any low speed machinery already in operation (i. e., walking beams, band wheel shafts, or treater feed pumps). The chemical pump illustrated in Figure 8 is mounted on the samson post, and is driven by the walking beam. Feeders of this type will pump as little as 1 pint and as much as 10 gallons or more per day. They are designed to operate against a pressure of as much as 600 pounds per square inch. The cost of the pump unit





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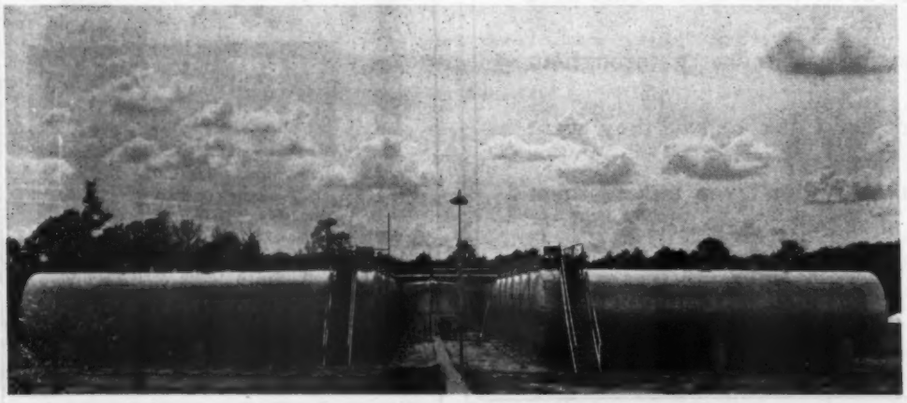

is approximately $20.00. The unit with electric motor will cost probably $60.00. Larger feeder pumps are designed to pump as high as 1,000 gallons per day against a pressure of 2,000 pounds per square inch.

ADMIXTION OF CHEMICAL

Flow-lines, tubing or other facilities through which the emulsion and chemical pass will cause, normally, sufficient mixing. In some instances a special mixer is necessary. Manufactured mixers are available, but in most cases the mixers are made in the field shop. One type of shop made mixer is constructed by extending the upstream side of the flow-line into a shell. The end of the

Fig. 10—Older style of electric dehydration plant

flow-line is plugged, and the section inside the shell is perforated with small holes. The downstream side is similarly constructed.

The gravel column is the more common, and usually more efficient, type of mixer. It consists of an upright section of pipe, 8 inches or more in diameter, filled with pea gravel. The emulsion and chemical enter at the bottom, pass upward through the gravel, and flow out at the top of the column.

The chemical treating plant shown in Figure 9 would not clean the emulsion properly until the gravel column (C) was installed. Several similar cases are known.

HEATERS

Heat must be applied to many of the crude oil emulsions before they will break down. The older styles of electric dehydration plants used high-pressure steam heaters to heat the emulsion. Figure 10 illustrates one of these plants operating in conjunction with a high-pressure boiler plant. High-pressure steam is still used, when available. Present opinion, however, favors low-pressure heating units, which do not require firemen in constant attendance. Elimination of high-pressure boiler plants also reduces maintenance cost.

Plants which treat emulsions at higher temperatures should be designed to avoid gravity volume and losses. Table 1, compiled by William Woelflin, indicates that the gravity loss in han-

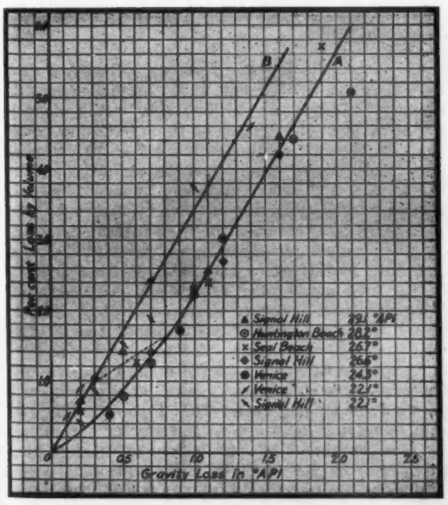

Fig. 11—Relation between gravity loss in degrees A.P.I. and per cent loss by volume

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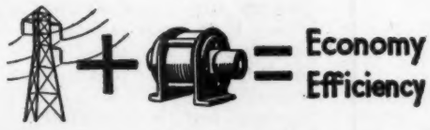

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dling hot oil depends upon the gravity of the crude oil, the temperature, and the manner in which the oil enters the tank[3]. The chart in Figure 11, taken from the same paper, shows that an appreciable volume loss accompanies the gravity loss.

Gas Engine Heaters. Waste heat from gas engine exhausts and circulating waters has been found adequate for efficient operation of a number of treating plants. Results obtained by R. L. Pettefer in tests on gas engine exhaust and circulating water heaters are shown in Table 2[4]. These heaters, to function satisfactorily, should be insulated. Heat transfer efficiency of gas engine exhaust heaters tested is said to be from 64 per cent to 70 per cent, that of circulating water heaters 39 per cent to 58 per cent.

Firebox Boiler Heaters. One popular type of production heater is illustrated in Figure 12. An old firebox boiler is used. The firebox ends of the tubes are welded to the tube sheet, and the fusible plug is replaced by a cast iron or steel plug. The emulsion is conducted into both sides, at the front and near the base of the mud ring. The outlet in the unit illustrated is from the dome, but greater efficiency is obtained if it is placed on top of the boiler near the stack. This type of heater is controlled by an integrated thermostat, in which the temperature element and the gas valve are separated units. Thermostats of this design may be purchased for from about $50 to $70, and will

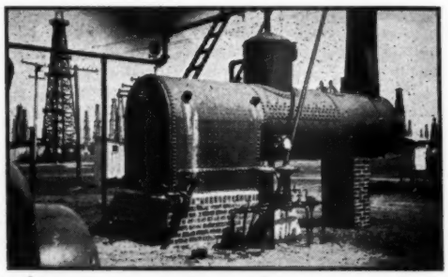

Fig. 12—Firebox boiler production heater

control the temperature within a range of approximately 5° F. The thermostat bulb should be inserted in the boiler a short distance forward from the emulsion outlet, but not in the outlet line itself. The gas valve, a balanced valve, may be placed at any convenient point in the fuel line. It is actuated through a flexible capillary tube from the bulb. Firebox boiler heaters are equipped, usually, with low-pressure relief valves. These should be of the hooded type, with the outlets piped away from the boiler, to avoid fire hazard.

The thermal efficiency of firebox boiler heaters, reported to be about 50 per cent to 60 per cent, may be somewhat lower than that of certain other types of heaters. In spite of this, they seem to be the most successful of the heaters so far used in chemical treating plants, probably because of a washing action which occurs in the boiler.

Tubular Boiler Heaters. Tubular boilers are used as heaters in a different way. Emulsion passing directly through the boiler shell would deposit sediment upon the bottom of the barrel and cause damage. Instead, the boiler is used as a low-pressure steam unit. The upper halves of the tube sheets are cut away, and are replaced by half sheets cut for small tubes (three-quarters inch to 1¼ inches). Exchanger tubes of Admiralty metal are then rolled into these upper sheets. The arch is rebuilt to fall below the coils. Baffled headers on the tube sheets form return passes. The emulsion circulates through the small tubes, and is heated by low-pressure steam generated in the lower part of the boiler. The tubular boiler type of heater is reported to have a high thermal efficiency, probably an average of 80 per cent, and as high as 92 per cent. This high efficiency is said to be primarily due to the greater turbulence of flow of the emulsion, which facilitates heat transfer from the tubes to the emulsion.

Figure 13 illustrates a tubular boiler heater similar to the one described above. Instead of having the heat exchanger built into the boiler shell, however, the boiler shown has two heat exchangers

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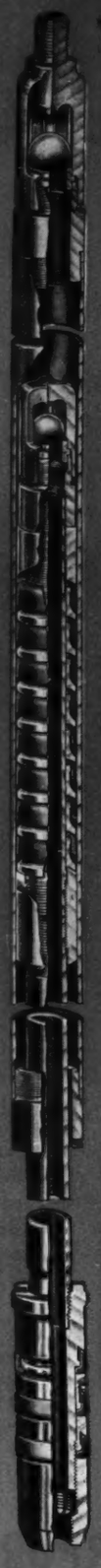

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mounted on top of the shell. Low pressure steam, generated in the boiler, passes into the tops of the heat exchangers, heats the tubes through which the emulsion travels, condenses, and the water falls back into the boiler.

Investment costs are higher for tubular boiler heaters than for firebox boiler heaters, although their thermal efficiency is said to be greater. Only soft water is used in the boiler proper. Very little make-up water is required.

Vertical Boiler Heaters. A popular type of small heater is shown in Figure 14. The emulsion enters the bottom of a vertical boiler, passes upward through coils, and emerges at the top. The temperature is controlled by a thermostat inserted in the top of the boiler. In the small thermostats used with this type of heater the bi-metallic element and the gas valve are both in one unit. The maximum fuel gas pressure on these small thermostats should not be over 5 pounds per square inch, and so a gas pressure regulator is placed in the gas line. The cost of the thermostat and pressure regulator is approximately $25. The temperature control is not as accurate as that of the more expensive thermostat previously described, the temperature variation being about 20° to 25° F. One style of small thermostat is designed to give a

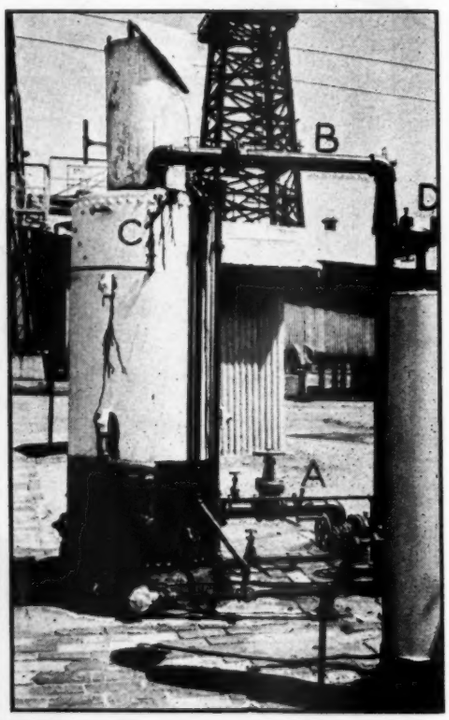

Fig. 14—Vertical boiler production heater: (A) Emulsion inlet; (B) emulsion outlet; (C) thermostat; (D) gas pressure regulator

graduated gas volume control, and is more sensitive than ones which turn on the full gas volume at once.

The vertical boiler heaters are adaptable to plants treating individual wells. Their initial costs are low. No data regarding their efficiency are available.

Pipe Heaters. The pipe heater shown in Figure 15 is an uncommon type of heater, suitable to tank system plants which treat large volumes of emulsion. Its initial cost probably is rather high, but its thermal efficiency should also be high.

Thermosyphon Heaters. Thermosyphon heaters of various designs are in operation in chemical method treating plants. They are of two general designs, the open system and the closed system. In the open system, the water in the bottom of the settling tank circulates directly through the heater. In the closed system, fresh water from the heater passes through coils in the settling tank and returns to the heater. The advantage of the closed system is that only soft water passes through the heater, thus reducing heater repairs. The disadvantage of the closed system is that if

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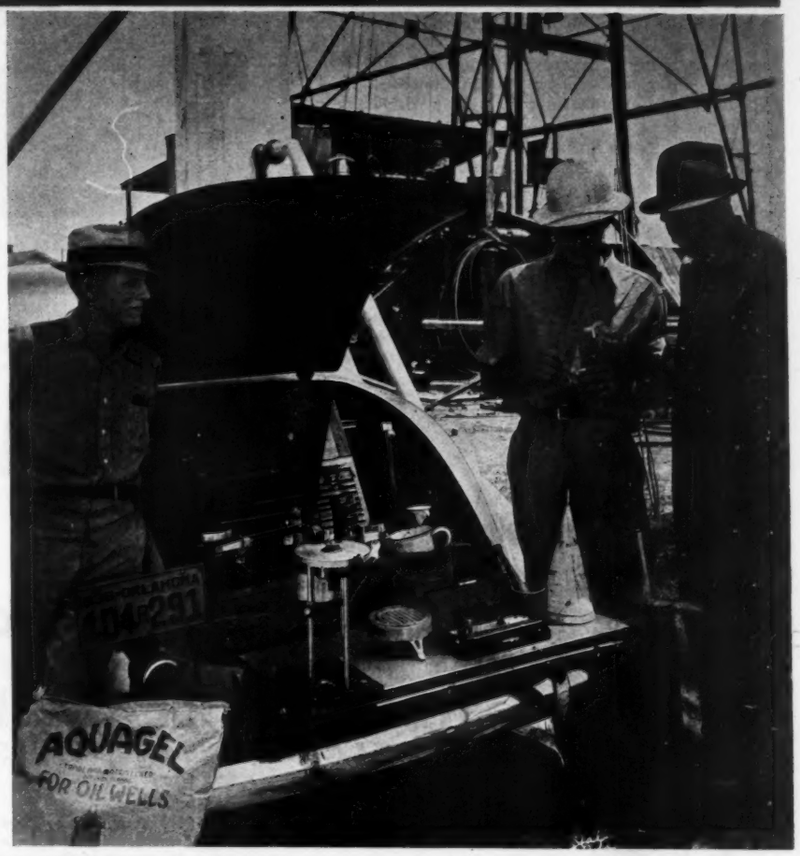

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repairs to the coils in the settling tank are necessary, the tank must be emptied.

Thermosyphon heaters, by their nature, must be designed so that the line carrying the hot water rises on an even grade to the tank. The return line should be level, or on a down grade to the heater.

The heating unit in a thermosyphon heater may be any one of several forms. Firebox boilers have been used in some plants. One plant utilizing a firebox boiler in a closed thermosyphon system is reported to be very satisfactory. It has not been in operation long enough, however, to indicate how well the tank coils will withstand corrosion.

Figure 16 shows an open system thermosyphon heater designed and installed commercially. The small vertical heater is set 25 feet or more from the settling tank. The hot water line, well insulated, is flanged to the tank at a height of about two-thirds that of the tank. The tank shown is set within an excavated firewall, and so the cool water line rises from the bottom of the tank to the heater. This is not usually desirable, for it serves to decrease the rate of water circulation. A check valve is placed in the cool water line at a point just outside the heater. No thermostat is used.

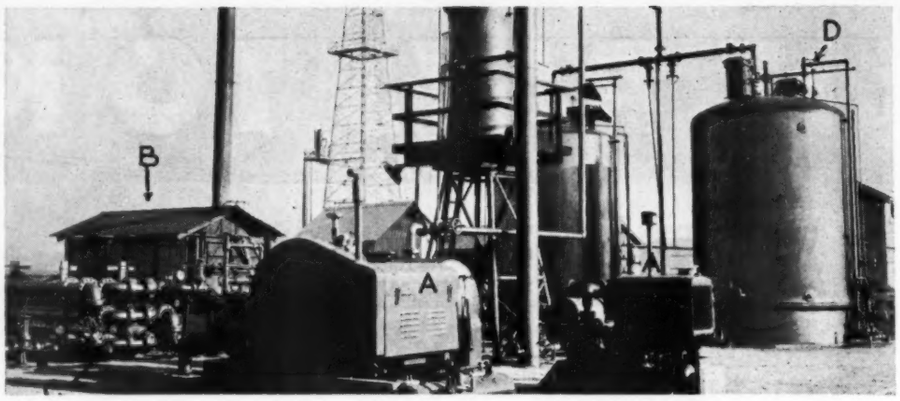

Fig. 15.—Tank system electric dehydration plant. (A) Gas-engine driven feed-pumps; (B) pipe heater; (C) heat exchanger; (D) relief valves

Many heaters of this design are being used on small properties, usually with a 750-bbl. tank, approximately 15 feet in diameter and 25 feet high. Results reported obtained with these heaters are given in Table 3. The fuel gas is seldom metered. Check tests indicate a fuel gas consumption of from 1,500,000 feet per day to 30,000,000 feet per day, with most units consuming between 5,000,000 feet and 10,000,000 feet per day. The heater installed, including labor and fittings, costs about $300.

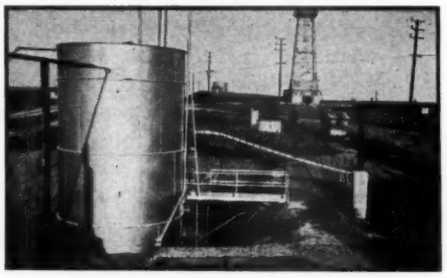

Fig. 16—Open system thermosyphon heater

Other Heating Methods. Almost any source of heat available may be used for heating the emulsion. In one chemical treating plant the production from two hot wells (175° F.) is mixed with that from four or five cooler wells (100°). The resulting temperature of the water in the settling tank is from 140° F. to 145° F.

It has been suggested that the hot water draining from the treater be utilized for preheating the emulsion.

1. Roberts: "A New Theory of Emulsions," J. Phys. Chem., Vol. XXXVI, December, 1932.

2. Woelflin: "Pumps for Handling Crude Oil Emulsions," Electric Dehydrator, Vol. III, No. 3, March, 1933.

3. Woelflin: "Gravity and Volume Losses When Handling Hot Crude Oil," Electric Dehydrator, Vol. III, No. 1, September, 1932.

4. Pettefer: "Utilizing the Waste Heat from Gas Engines to Heat Crude Oil Emulsions Before Electric Dehydration," Electric Dehydrator, Vol V, No. 1, January, 1935.

5. St. Hill: "Benefits Resulting from the Flow-Line System of Electrical Dehydration," Electrical Dehydrator, Vol. V, No. 3, July, 1935.

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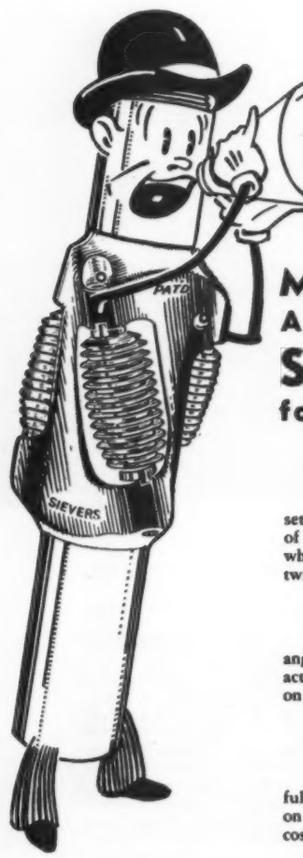

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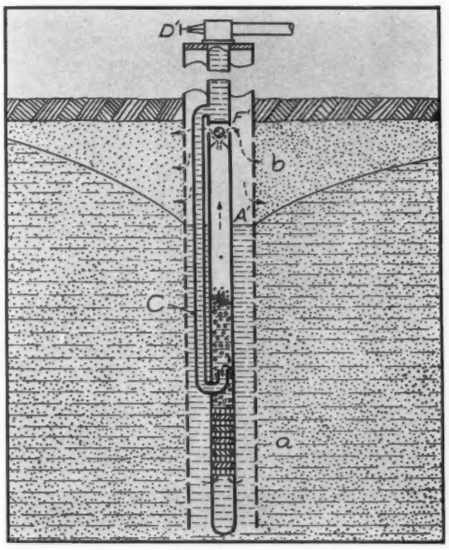
Reservoir Pressure Held by Returning Gas Removed From Oil

By L. G. E. BIGNELL

The Gas Conservation Committee of the American Petroleum Institute passed a resolution in 1928 recommending the study of the conservation of natural gas and petroleum and the best means of its efficient utilization. This resolution extended an invitation to the engineers of the industry for their co-operation in working out these problems.

Acting upon the suggestion John A. Zublin, a well known engineer of Los Angeles, Calif., under-



Principles of Zublin gas extractor

took an intensive study and analysis of the factors involved in the conservation of gas. He has recently published his conclusions in booklet form. This sets forth many interesting facts and describes a device he has invented to extract the gas from the oil in the bottom of the well and redeliver this gas under pressure to the formation.

This article is based upon a review of this work in which Mr. Zublin first points out that beside saving of natural gas for future supply, gas conservation is often understood to mean the use of gas in an oil reservoir in a manner which will secure maximum economical oil production at the lowest total cost. In this respect it can better be called conservation of compressed gas energy.

In most fields the expansion of gas is the essential force driving the oil through the sand to the well. Its presence in the oil in the dissolved or liquid state materially reduces the viscosity and surface tension of the oil, which in turn reduce the forces tending to retain the oil in the sand. For the average crude oils, saturation with natural gas at 1,000 pounds pressure reduces the viscosity to less than 40 per cent and the surface tension to less than 50 per cent of their gas free values. The importance of gas conservation is therefore evident, not only from the standpoint of decreasing the lifting cost, but also from that of increasing the rate of flow through the sands to the well. Any gas produced in excess of the formation gas-oil ratio is at the expense of oil remaining in the sand. The formation gas-oil ratio is assumed to be that of the initial production if no bottom-hole samples are available. Usually the gas-oil ratio increases after bringing in the well showing that gas is being evolved from the oil remaining in the reservoir. Even when the excess gas is from a gas cap this is true, since reduction of gas cap pressure means reduction in the pressure holding gas in solution in the oil.

Any method bringing about a reduction in gas-oil ratio is a method of gas conservation. The use of tubing in flowing wells is therefore a conservation method. Others are: the use of high back pressures to prevent by-passing of gas to the well; selective production by locating the bottom of the tubing at a level which gives a low gas-oil ratio; production at rates of flow giving low gas-oil ratios and sometimes the use of gas-lift or repressuring.

Core samples show that most producing reservoirs are stratified or separated more or less by seams of impervious sediments. Production data for these reservoirs indicate these strata have crevices of porous sections within them permitting vertical travel of oil and gas. Under such con-

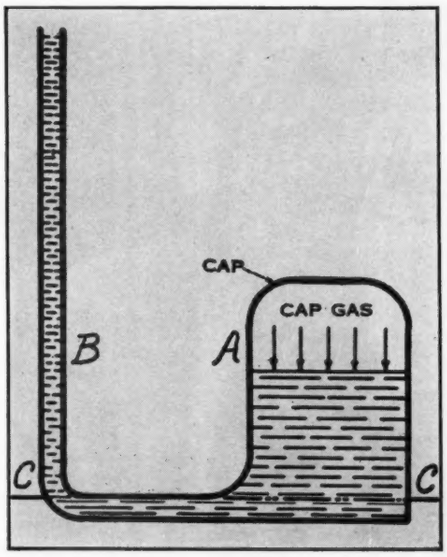


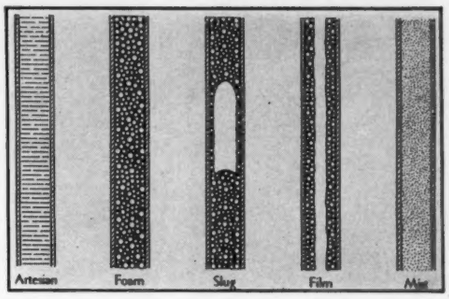
Diagram showing efficiency of downward drive in producing oil with minimum loss of gas

ditions the oil-producing formation may be considered continuous. It may exist originally in the reservoir in three conditions:

1. Free gas segregated in relatively large pockets.
2. Gas dissolved in the oil.
3. Occluded gas—exceedingly small bubbles and films mixed with the oil in the formation.

In an undisturbed reservoir free gas probably exists only at the top of the formation. Free gas existing in segregated pockets throughout the formation is undoubtedly caused by expansion and separation of dissolved and occluded gas from the oil, due to reduction in pressure incident to production under low back pressure.

The condition of the fluid within the formation is a subject about which there is no direct proof. The quantity of gas actually existing in the liquid phase and that existing in solution in the oil have long been debatable questions. The perfection of



Various types of flow through vertical tubing

bottom-hole sampling devices have enabled more accurate determination of such quantities. The solubility of gas in oil varies with the character of the gas, the gravity of the oil, temperature, pressure and other factors. The solution of gas in oil increases the volume of liquid in amounts varying over wide ranges. The average is about 6 to 8 per cent per thousand pounds pressure, though much larger in many cases.

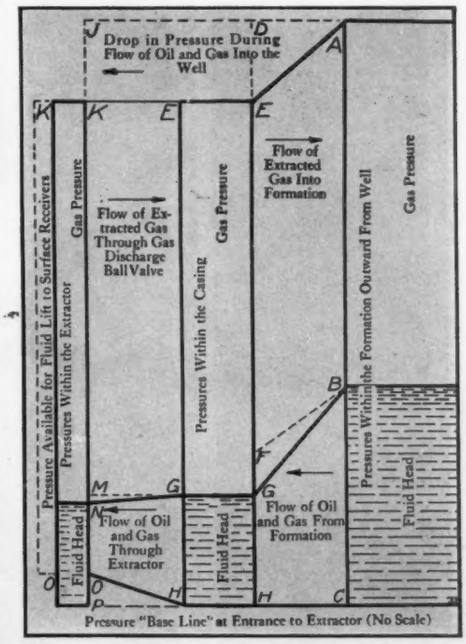
Gas which is not in solution in the oil must be in the form of a mixture. This may be either a stable foam with exceedingly small gas bubbles, or the gas is mixed with the oil in larger bubbles of such size that they will not rise through the pores of their own buoyancy, but can be carried with or by-passed by the oil in its movement. This is known as occluded gas.

The forces available in an oil reservoir to cause flow of oil from the sand into the well are:

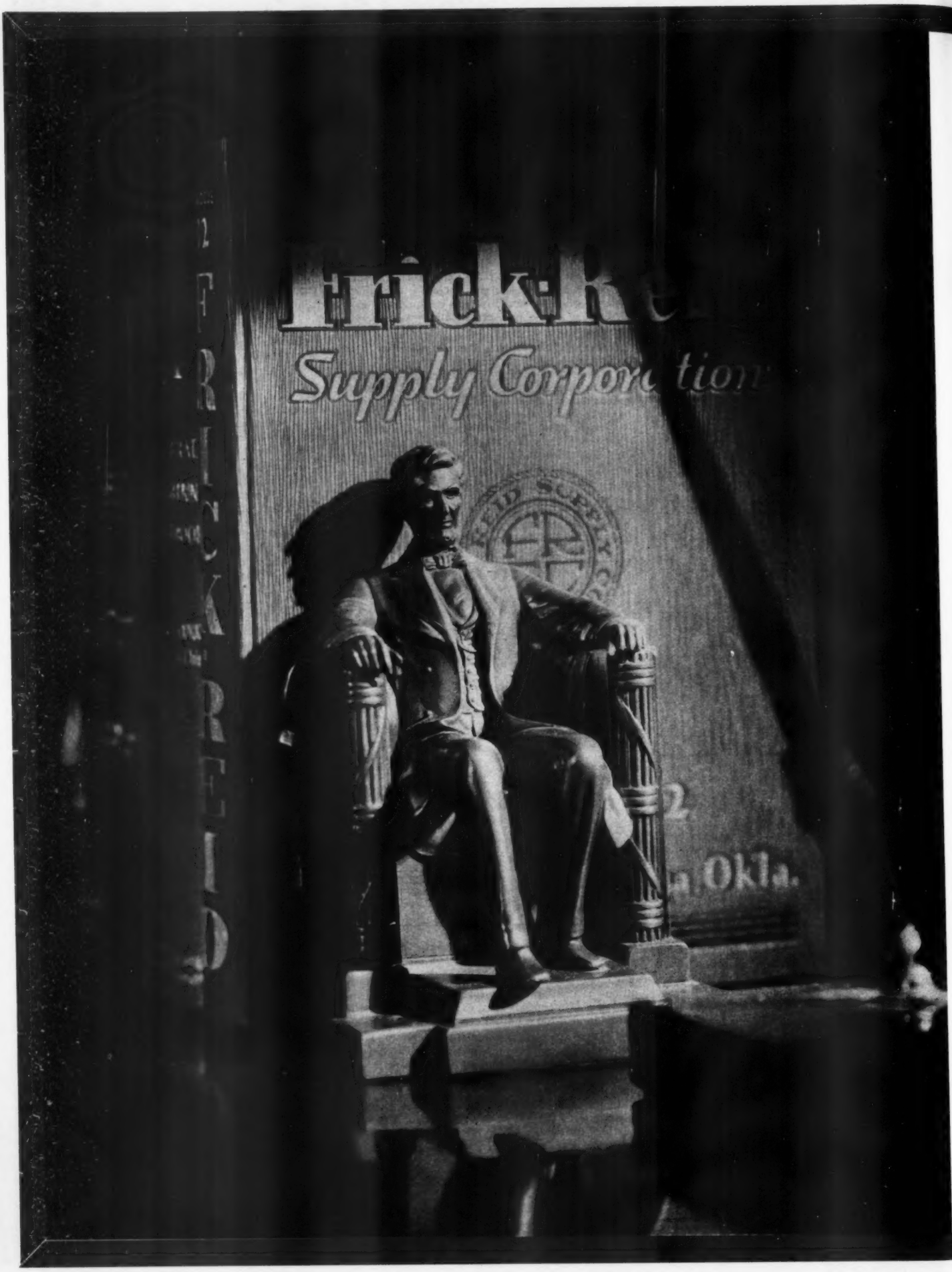
1. Expansion of all gas originally compressed within the reservoir.
2. Fluid head of oil will cause gravity drainage from the upper sand into the well.
3. There may or may not be water exerting a pressure upon the edge of the productive area.

The first two of these forces are ready to act immediately. Water pressure can only act when the effect of production at the well has been transmitted outward to the edge of the productive area.

In the early life of a field the oil or foam, its viscosity decreased by dissolved gas, passes easily through the pores in the sand and the bubbles do


Drop in Pressure During Flow of Oil and Gas Into the Well
Pressure Available for Fluid Lift to Surface Receivers
Gas Pressure
Pressures Within the Extractor
Fluid Head
Flow of Extracted Gas Through Gas Discharge Ball Valve
Pressures Within the Casing
Flow of Extracted Gas Into Formation
Pressures Within the Formation Outward From Well
Flow of Oil and Gas Through Extractor
Flow of Oil and Gas From Formation
Pressure "Base Line" at Entrance to Extractor (No Scale)

Well equipped with gas extractor illustrating total pressures and flow differentials


Supply Corporation
Okla.

The dogmas of the quiet past are inadequate to the stormy present

. . . . . *Abraham Lincoln*

Our quotation from Lincoln's second message to congress might well be a modern observation on the supply business in the oil industry. "Let the buyer beware" is long since passe. And the oil man no longer buys casually on price, without reference to the value of the vendor to the industry. A very fine spirit of understanding and co-operation has developed between far-sighted oil men and dependable supply companies.

Wells are deeper. Pipe strings must be longer. Equipment must be finer. Service must be better. "The dogmas of the quiet past are inadequate to the stormy present." Gone are the wooden derricks, the rickety pumping rigs, the leaky pipe lines, the wasteful refineries. In their place are competence, progress, achievement.

And so the oil industry turns naturally to the unrivaled facilities of the manufacturers behind the Frick-Reid organization, to whom the stormy present is a welcome challenge to make every Frick-Reid Store a safe harbor.

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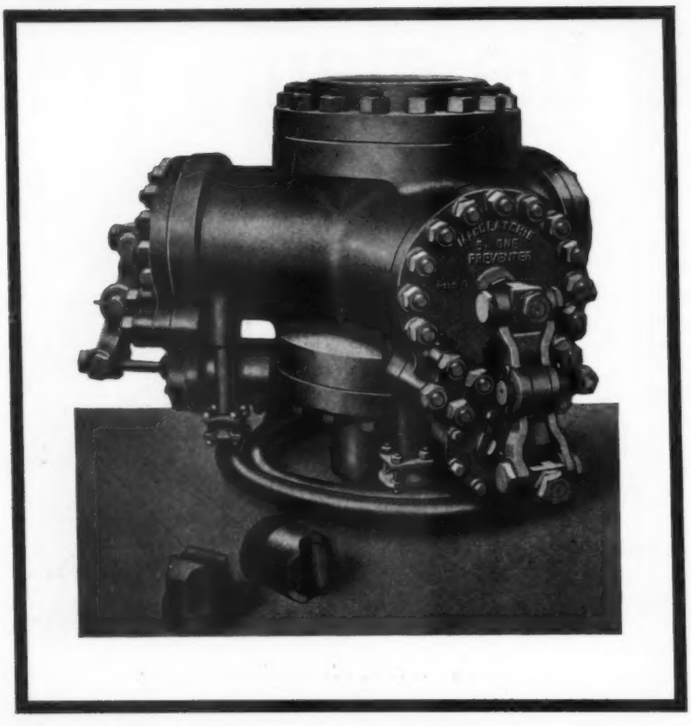
A NEW



BLOWOUT PREVENTER

WITH TYPICAL MacCLATCHIE QUALITY AND EFFICIENCY

Here it is at last—the kind of preventer operators have been looking for since the beginning of rotary drilling. The MacClatchie "5 in 1" Blowout Preventer packs off any portion of the drill string that happens to be suspended in it regardless of size or shape. It accomplishes this with lightening like speed—approximately 55 seconds. As no sand or dirt can enter to impair its proper functioning it always packs off with a positive certainty. This preventer is built to withstand the pressures of present day drilling being tested to hold 4000 lbs. cold water pressure.

It packs off the drill pipe and square kelly with same set of packers. Without any change in the packing the MacClatchie "5 in 1" Blowout Preventer will pack off any part of the string such as Drill Pipe, Kelly, Drill Collars, Tool Joint or Pipe Collar—providing 5 preventers in 1 and thereby greatly reducing the investment in equipment and cellar space.

It is constructed with three cylinders with a heavy rubber packer operated by hydraulic pressure in each cylinder. These packers are made of 5000-lb. tensile strength rubber and are 3 inches thick—thereby giving a large safety factor in handling the highest pressures. The rubbers are confined in steel plates to restrict their expansion to the desired area.

Packs any part of the string with greater speed and certainty than ever before obtained.

It is by far your best insurance against blowouts.

Specify them for your next well and get acquainted with the remarkable advantages of this device.

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not have to be deformed. As production progresses and there is more release of reservoir pressure, bubbles grow larger. So long as these bubbles remain small enough so they do not contact all the walls of the pore spaces, the liquid oil can flow horizontally through the channels beneath the gas bubbles without appreciable resistance. But it cannot easily drain downward. Each gas bubble serves as a small ball valve, blocking the larger downward passages. If the gas bubbles expand so they contact the sand grains below the pore spaces as well as those above, the oil cannot flow without deforming these gas bubbles. Each bubble adds to the pressure required to force oil through the formation, and millions of such bubbles in the path of the oil necessitate appreciably greater pressure differentials. This is known as the Jamin effect.

WELL TUBED ABOVE PAY

When a well is tubed above the top of the pay the normal level must reach the bottom of the tubing, or else the liquid produced is carried up from the fluid level as a mist. Well pressure relations below the top of the producing formation will be essentially the same when tubing is set above the top of the pay zone and when flow is through the casing. In flowing a well tubed above the pay zone, the oil does not take a horizontal path to the well then vertically up the well. Instead the oil and gas will take the easier path and flow to the well diagonally upward. The reduced pressure in the well bore produces a large differential pressure. The gas bubbles in the oil coming to the well expand rapidly, break and combine into larger bubbles before they reach the well. In the early stages the high differential is sufficient to overcome the Jamin effect. However, in porous strata the permeability varies widely. The gas will take the easiest course, forcing the oil out of only the larger crevices in its progress. When a passage is cleared, through which the gas may by-pass, large volumes will flow to the well without carrying an appreciable amount of oil. This, of course, is a waste of gas energy, and makes no use of the fluid head which would otherwise serve to drain oil into the well. Production will be mainly from the upper portion of the sand.

If the more permeable strata near the top of the sand connects with edge water, water may be drawn in through them entering the well at levels above the bottom of the well. Quantities large enough may enter through one thin porous layer to make further production economically impossible.

DEEPLY TUBED WELL

When a well is tubed deeply the production comes mainly from the lower portion of the sand, and the upward drive is eliminated except as due to the buoyancy of the gas. Flow is still under gas drive. While the sand face is exposed to gas in the well the gas pressure is always less than the formation pressure. Since gas cannot be absorbed by the sand, all gas coming into the well with the oil must be produced through the tubing or at the casing head. Because there is less gas in the lower portion of the sand, a more favorable gas-oil ratio will be had by tubing deeply. However, as production proceeds and the gas bubbles in the lower zone expand, greater resistance is introduced by the Jamine effect, so that production tends to come from the upper portions of the sand. Also due to the early production from the lower sands, water if present will find little resistance to its flow to the well through the lower sand portions.

After making this study of the basic principles of gas and oil production Mr. Zublin conceived the idea of developing a device to be placed in the well on the bottom of the string of tubing, this device to assist in the separation of the gas in solution from the oil, delivering the gas free oil into the tubing for transportation to the surface by whatever flow means needed for the well, and at the same time liberating the excess gas into the annular space between the outside of the tubing and the walls of the hole.

In the design of this device it is assumed that the upper portion of the reservoir is filled with gas while the oil has formed gradients toward the

lower portion of the reservoir and is standing in the hole at relatively low fluid level. The oil enters the lower end of this device mixed with the solution gas. The mixture is passed through stationary and revolving rings or wheels and broken up so that the gas can escape freely from the oil. The gas is conducted to the upper part of the extractor and then liberated into the annular space outside of the tubing and opposite the gas saturated portion of the formation. The oil with only a portion of its original gas is conducted to the lower end of the producing string and then lifted to the surface.

The theory is that the gas liberated into the space above the oil will find its way back into the formation and continue to repressure or recharge it and in this way tend to drive the oil downward and out into the lower portion of the drilled hole. This is in effect a recharging or pressure maintenance with gas without delivering this gas to the surface and removing it from the oil and then pumping it back into the formation.

The proportions of open hole to extractor and gas saturated formation to oil charged sand may vary but it is stated that the device will work in relatively thin sections of reservoir as well as in the very thick sand sections such as found in many California fields. The maintenance of higher pressure upon the gas in the annular space to create differential head against the formation is controlled by surface valves. The operation of the extractor is then automatic and the fluid level in the bottom of the hole is maintained with relation to the fluid level in the formation, gradually being lowered as the oil is removed.

The inventor claims that aside from the benefits in production to be obtained by conservation of gas within the formation this device will also result in a saving in equipment costs for producing the oil. Since the production of gas is more uniform over the life of the well and the pressure is maintained, the quantity and size of all gas handling equipment will be reduced. Large compressors for gas injection and repressuring and even for gas-lift are not necessary. The throughput in gasoline plants is levelled out over the life of the field. Fewer traps are required on large wells. Gas lines to consuming districts may be put in with more assurance of continued uniform gas production.

The device has been in use in California for some time and the manufacturer is planning to make other installations in fields in the Mid-Continent and Gulf Coast areas where conditions are favorable for its use. It is an interesting development resulting from a study of the fundamentals of conditions in gas and oil reservoirs and the results obtained from application to wells in other than California fields will be watched by operators with much interest.

Trained to Think

"Training employes is primarily a problem of training men to think on the job," was one of the statements made by J. P. Murray, district foreman for the Empire Oil & Refining Co., at Oil City, Kans., before the National Safety Council. In this regard Mr. Murray continued by stating, "However, if it is to be effective, it must be directed.

"Mere thinking without direction may lead to the formation of undesirable habits of performing an operation. A man's ability to think is limited by his mental ability, his educational experiences and his job experiences. A man of low mental ability is limited in the beginning, in his ability to analyze his job and see the complete operation in its entirety. Lack of educational experiences limits a man in thinking because it reduces his fund of available information for solving the immediate problem. In the same manner, a lack of job experiences will handicap a man as much or more than a lack of educational experiences. Job experiences to be of the most utility must be varied in nature so as to offer numerous approaches to the solution of the problem. Routine job experiences tend to limit a man's capacity because he does not analyze the job and select the most desirable procedure. A thinking man uses his experiences as a basis for doing his job and not as a fixed method of procedure."

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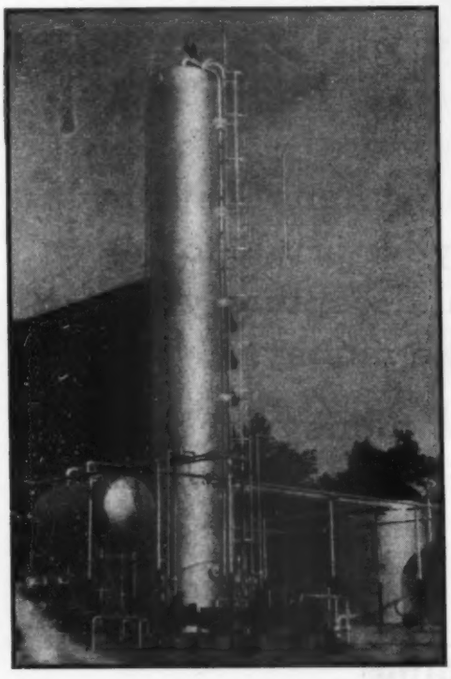
Central Control Features Rodessa Gasoline Plant

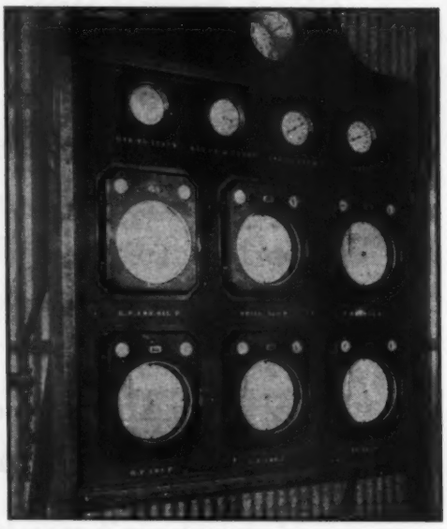
By W. T. ZIEGENHAIN

Utilizing automatic control to the fullest measure Pelican Oil & Gasoline Co., Inc. operates its new well-pressure 56,000-gallon natural gasoline plant in the Rodessa field with unusual ease and high efficiency. Designed to handle 50,000,000 feet of gas daily, it has been able to handle relatively high over-loads.

The plant is located on the company's Sexton lease and takes the gas from the company's 13 wells located on the lease. A part of these wells are serviced by separators held at pressures between 325 and 350 pounds while the others operate within a pressure range of 40 to 75 pounds.



Distillation unit able to finish 56,000 gallons daily

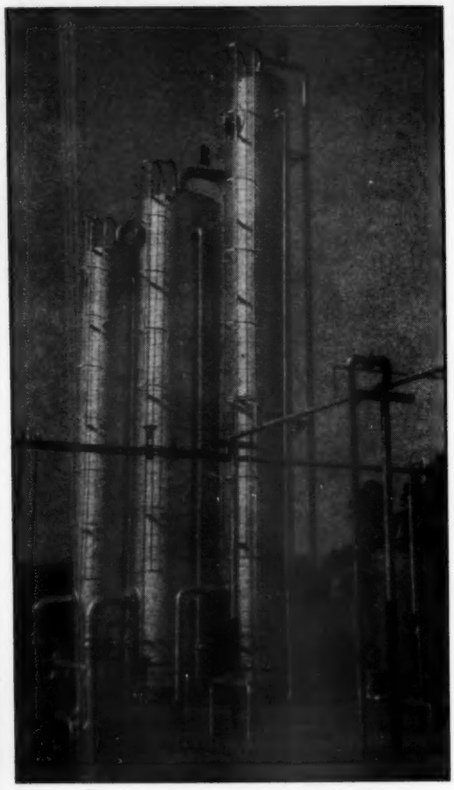


Instrument panel-board permitting central control

This necessitates operating two pipe line gathering systems to supply the plant with gas. The high-pressure line is 6 inches in diameter and delivers about 20,000,000 feet of gas daily while the low-pressure line is of 16-inch diameter and delivers about 30,000,000 feet of gas daily.

The high-pressure gas first passes through a conventional type of scrubber and into a 54-inch by 50 feet bubble cap absorption tower held at about 325 pounds pressure.

The low-pressure gas, because of the relatively large volume to be handled is split two ways, each half passing through a scrubber and then into a 90-inch by 40-foot bubble cap absorber operated at about 45 pounds pressure.



Two low-pressure and one high-pressure absorbers

The enriched oil from the high-pressure absorber and from the two low-pressure absorbers go to common storage where they are mixed and supply the feed for the distillation unit.

DISTILLATION EQUIPMENT

Briefly described, the distillation equipment is of the conventional steam exchanger fractionator type, the fractioning portion of the column being 84 inches in diameter and about 56 feet high. The tower has an oil capacity capable of finishing to distillation specifications 56,000 gallons of 26-70 natural gasoline daily. Actually, however, the plant operates to produce about 43,000 gallons of this material daily as an overhead product and close to 7,000 gallons of 18-pound material is recovered as a side stream.

At present the plant is not equipped with a stabilizer and even though some consideration has been given to adding these facilities, the decision has been made not to add the equipment over the immediate future.

Steam used in the distillation unit and for general plant use is generated in five 115 H.P. field-

Horizontal finished-oil storage tanks located in the Pelican Oil & Gasoline Co.'s plant

COMPLETIONS

Time is the essence of the contract but it should be subordinate to precision of design and soundness of construction.

Badger's record of "on-time" Completions is well-nigh perfect. More important is an enviable record of successfully operating refining units. Results are what count.

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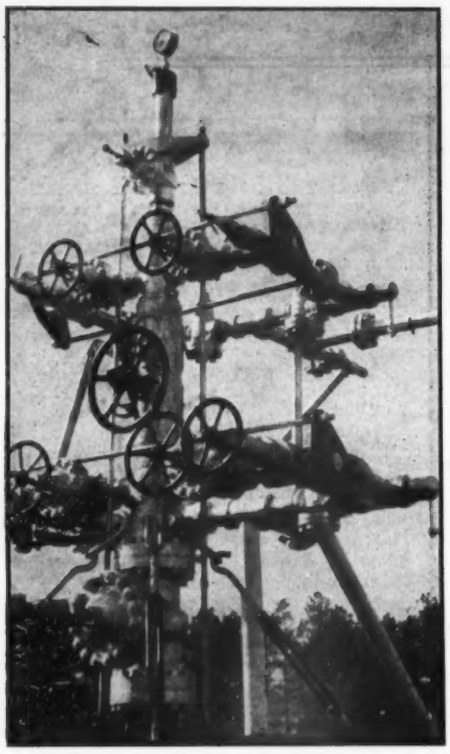
type boilers. Electric power for plant lighting is supplied by a 20 KW steam turbine driven generator. Water is supplied to the plant from two wells. The principal well is equipped with gas lift and in this manner some of the residue gas from the plant is utilized. The bulk of the residue is burned in flares on the plant site.



Pelican No. 1 T. F. Sexton, one of the most important wells connected to the plant system

Storage for the finished gasoline is provided by 14 horizontal 10-foot by 40-foot tanks, each having a working capacity of about 24,000 gallons. To provide for loading from this storage, the plant is equipped with a 4-inch line running to its 10-car loading rack 1 mile from the plant.

While various equipment companies entered into the detailed design of the individual units their plans followed those laid out by the Pelican engineers and all construction work was handled by the Mattison-Wallack Co.

Strength Tests Made on Clips Welded to Cast Iron Pipe

Whenever the oil and gas industries encounter problems involving the joining of cast iron pipe they almost invariably turn to welding as a solution. In recent issue of Oxy-Acetylene Tips, house organ of Union Carbide and Carbon Chemicals Corp., the results of tests to determine the shearing strength of clips bronze-welded to cast iron pipe were discussed. The work was done for the sectional committee on specifications for cast iron pipe organized under the procedure of the American Standards Association and sponsored by the American Gas Association, A.S.T.M., American Water Works Association and New England Water Works Association. The results obtained are of special interest to gas and water companies and are given here in part.

When cast iron pipe with bell-and-spigot joints is laid, and it is known in advance that the strength of the joining material is insufficient to keep the pipes from slipping at the joints more than the permissible amount, due to the high pressure in the pipe line, bad ground outside or other causes, tie rods carried across the joints are often used. Ordinarily for such joints, lugs are cast as integral parts of the pipes. These are located near the spigot end. These lugs are usually slotted for bolts and give a bearing for nuts on the bolts.

When this type of connection is desired or is being installed, it is necessary to line up the pipe sections so that the bolts, which are positioned across the joint longitudinally with the axis of the pipe, will be correctly aligned. Thus little leeway in the way of rotation of the pipe and fittings may be allowed. In order to allow greater leeway, use is sometimes made of clamps bolted around the spigot end of the pipe, or of clamps on each pipe end. These clamps depend for their holding power on friction on the pipe. These methods have certain disadvantages which are inherent in their design.

Occasionally emergencies arise, however, and it may be found necessary or desirable to use this link harness at a joint where the cast shoulders have not been provided. In such case a pair of short-steel clips, curved to the circumference of the pipe, may be bronze-welded to the spigot end of the pipe on opposite sides and in a proper position for holding the harness. It was the desire of the Sectional Committee to get a good idea of the holding strength of such clips bronze-welded to the cast iron pipe, and at the same time some idea of the cost.

Tests were therefore devised for determining these facts. Pieces of cast iron pipe were taken to a commercial welding shop, where the steel clips required for the tests were made. Half of the clips were welded on at this shop in order to give an indication of what results could be obtained in any location where a commercial welding shop could be found. The other half of the welding was then done at the shops of the manufacturer of welding gases in order to show results that might be obtained by experts in bronze-welding.

The load in each test was applied simultaneously to the unwelded edges of two diametrically opposite clip plates in a direction parallel to the axis of the pipe. The pipes were placed vertically in a 400,000-pound tensile testing machine, the specimens supported on suitable steel blocking, and the load applied actually to the top of a specimen. The loading of each pair of clips was continued until one or both clips were broken off.

RESULTS OF TESTS

The average direct load applied to the specimens welded by the contract welding shop when failure occurred was 240,500 pounds. The average load for the other specimens welded by the bronze-welding expert was 303,300 pounds. The fracture was not through the throat of the weld, but rather by shear through the bronze parallel to and within a few thousandths of an inch of the surface of the cast iron, or by breaking out the cast iron at the contact surface. It was observed that the fractures always started at the bearing edge of the side welds, progressing toward the 8-inch welded edge. Following the fracture of the side welds the clip rotated outward until the long welded edge also fractured. The method of load application produced combined shear and outward bending stress in the welds.

The greater loads required to break off the clips welded by the bronze-welding expert may have been due in part to the greater area of contact of weld metal with the cast iron, and also because of the larger tack-welds used at the ends of the bearing edge which were effective in resisting the outward rotation of the clip. Approximate areas indicate that shearing stresses of at least 46,000 pounds per square inch were developed in the total throat area of the welds, and stresses of 20,000 to 25,000 pounds per square inch of fusion contact.

In the published report of this work certain conclusions were noted by a member of the Sectional Committee who was a witness of the test. He stated that this design is intended merely as an emergency device when specially made pipe is not available, therefore the cost is, perhaps, not important. In this particular set-up, he said that six clips fitted to the pipe cost $9 and six welds $27, making the total $6 per clip.

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Proof of its superiority rests upon its practical utility for industries' cooling requirements, superiority attested to by increased numbers of new and old customers the world over.

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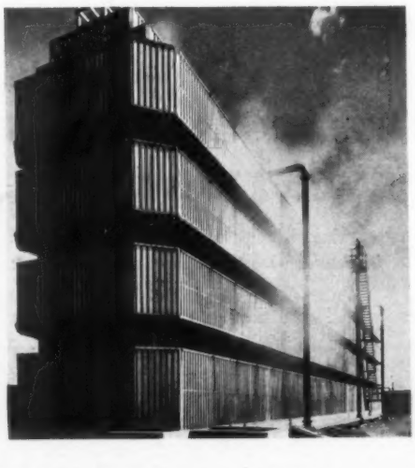
A new Bulletin, T236, describes Aerator Type Towers in detail. Write for your copy.



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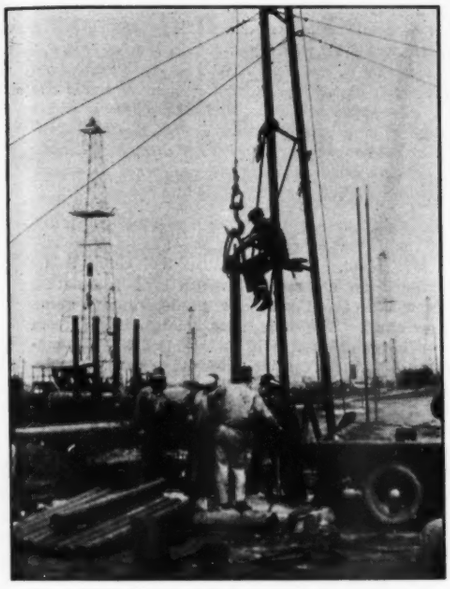
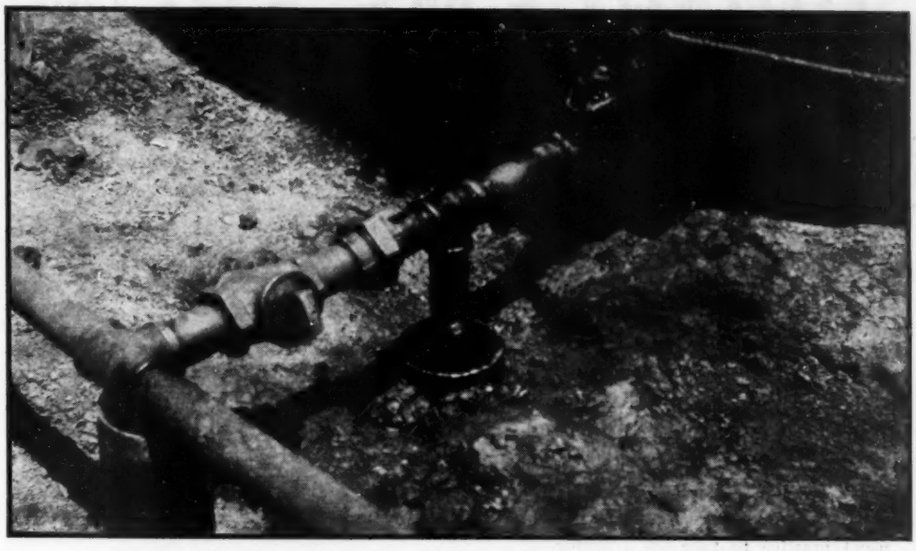
OPERATING IDEAS

Stabber's Seat

This board seat for the stabber, used while running casing in a water well in the Mansion field, Oklahoma City, is supported by ropes tied to the cross-bar just above the stabber. Hanging, as it does, it is possible for the stabber to have a seat which can be easily swung to where he wants to work.



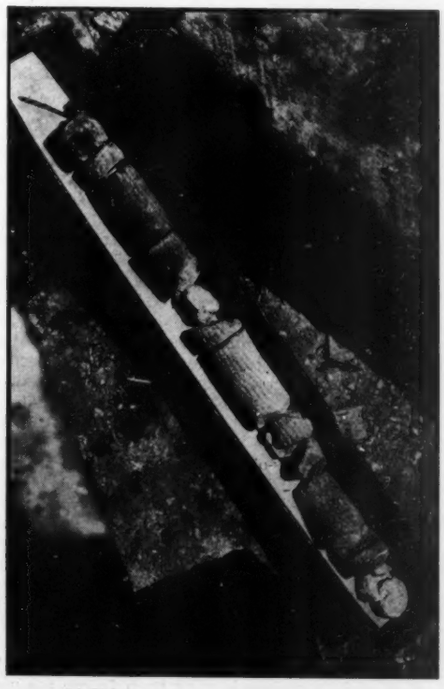


Bottom Sediment and Water Disposal Connection

This drain for b.s. and w. makes it possible to watch what is bein drawn off and provides for water disposal connections. The drainings pass off through a pipe under ground and the space about the tanks is kept clean. With the present hook-up b.s. and w. goes to a pit. However, as the 2-inch connections in the photograph indicate, provision is being made to run the salt water to a central disposal system located on the lease.

Cement Cored as Drill Check

In the completion of wells there is often some doubt as to the correct measurement on the top of the pay zone. As an added check on this measurement one company has adopted the procedure in their Kansas operations of starting to core before the cement, remaining in the hole from cementing the flow string, is entirely drilled out. The bottom of the cement in the core then marks the depth of the hole drilled before setting casing. This core measurement is then checked against the measurement which was formerly obtained by tallying down the drill pipe before the casing was run. As soon as the float shoe is drilled, coring is started, and cement is usually recovered at the top of the core.



Layer of Cork Used to Reduce Engine Vibration

To eliminate as much vibration as possible one oil company operating a large gas booster station in the Oklahoma City field used a one-inch layer of cork between the engine blocks and cement floor and around the lines leading to and from the compressors. Since this plant is only a few blocks from several large brick buildings it was necessary to reduce the vibration as much as possible due to the fact that the thirty-six 230-h.p., twin compressors when operating under full load cause a tremendous amount of concussion and vibration.

PROBLEMS FROM READERS

Edited by T. F. Smiley

Making Estimates of the Country's Underground Petroleum Reserves

From time to time I see estimates of the oil reserves which this country is supposed to have underground. I am interested in finding out how any accurate or even intelligent estimates of that sort can be made. Could you tell me something about how these estimates are arrived at?—E. I. E.

It is possible to make an intelligent, even if not highly accurate, estimate of underground oil reserves. Such estimates usually are made by committees of geologists and engineers, who study the general characteristics of regions and apply known facts to arrive at some idea of future performance.

In estimates of this character it has been the usual practice to take all available data upon past performance of fields and reduce these data to some comparable yield factor and then to estimate the oil still remaining unproduced, knowing the quantity of oil already extracted. Knowing area of the producing fields and something of the thickness of oil bearing formations and the percentage of the pore space filled with oil it is possible to arrive at estimates of recoverable oil from any area.

The principal problem involved in such a study is to obtain reliable fundamental data upon which to base the estimates of fields and formation thickness. In the past when open-flow production was common practice it was possible to produce decline curves for whole states or regions, knowing the quantity of oil that had been produced during succeeding years and plotting the values on cross-section paper and connecting the points with a line which would indicate trend of production in the areas under consideration.

To estimate the life of individual oil fields two methods may be mentioned here. The first consists of basing estimates on probable recoveries per acre-foot or other unit volume of reservoir which can best be applied during the early life of the field. The other method is based on the relationship of rise in oil-water contact to withdrawals made, and to movement of a possible gas cap.

In applying either of these methods it is essential that many data be available such as core studies of the producing formations which will indicate the actual thickness of the saturated section, the porosity, effective saturation and permeability. It is also necessary to know the original oil-water contact datum line, the position of the gas cap (if any) when the field was opened, the gas-oil content and the physical characteristics of the oil and gas. Gas-oil ratios and reservoir pressures should be studied and capillary retention and retention by adhesion of the oil to sand grains will give much valuable information in such a study because these data will indicate some values of energy originally available and energy left and also it is possible when such factors have been obtained to determine approximately the energy that should be required to drive the remaining oil from the reservoir into the wells.

The number and spacing of the wells in the field will have some bearing upon future recovery and it is especially desirable to know the manner in which the wells have been produced in the past, whether at high or low flow rates and the gas-oil ratios under production conditions.

Engineers have long been aware of the influence of gas dissolved in oil in changing the resulting fluid mixtures and their behavior in underground reservoirs and in recent years the U. S. Bureau of Mines has devoted much time to standardizing methods of studying these characteristics and applying them to various fields as early in the life of the wells as possible. This work has shown the possibilities of making reliable predictions of volume and recoverable oil and have also indicated to the engineers in charge of production in these fields the best methods of recovering the greatest volume of oil at lowest costs. That is, by applying these data to actual well or field conditions it is possible to determine the formation pressures below which the gas will tend to come out of solution and change the viscosity of the oil.

Changing the oil's viscosity by allowing the gas to escape from the solution will affect surface tension and specific gravity of the oil and with such changes the oil becomes increasingly difficult to move through the small pore spaces in the formation, and in time is too thick to be recovered by natural flow methods.

It is possible for any company now to determine with a fair degree of accuracy its future oil by applying the methods outlined above and if it were reasonable to expect the oil companies to disclose their individual records of this nature it would not be hard for a group of engineers and geologists to arrive at quite close estimates for regions and by totaling regional reserves to arrive at the nation's future supply of oil.

A great deal has been published concerning various methods of studying the characteristics of oil pools and applying such data to estimating reserves and it is now possible to apply these methods to individual leases or fields and it is being done by many companies to determine their future assets in oil underground.

So while it is possible to determine individual oil reserves the application of this knowledge to the problem of expressing the quantity of oil available to supplying future demands is by no means so simple. To know whether the nation has any given number of years' supply of oil available for any specific year's requirements puts upon the problem a much more complex interpretation.

WHY THEY CALLED IT *Cracker*

The cable-tool method of drilling (and the wells in many areas are still drilled with cable tools) involves use of a line which will permit the drilling-bit to bounce upward after each blow. The early drilling-lines were made of sea-grass. Manila rope and cables made of steel were introduced later. Where these wire lines are employed it is customary to insert a piece of manila rope about 100 feet long between the drilling-tools and the wire cable. This is called a cracker, and it is a sort of compromise between the modern wire cable and the old manila rope. Its name is said to have been suggested by the similarity of its action to that of the cracker or snapper on the horsewhip of horse-and-buggy days.

Directed Drilling Enables Operator to Complete Well in Fixed Zone

I don't see why there is much call for what is called directed drilling unless it is to start a hole on your own property and have it bottom under a neighbor's property and steal his oil. In the great majority of cases that would be a useless thing anyway, as any oil man knows. About the only situation I can see where there might be need for this directed drilling (with an honest purpose) would be where you start a hole at the edge of some body of water to avoid building a derrick out in the water and doing the drilling there. I would like some information on what kind of conditions makes directed drilling good practice. I wish you would tell me too whether there is a system of drilling more than one hole from the same derrick and what its advantages are.—S. E. Y.

Reasons for directed drilling—and you have named one of the principal ones—are quite honest and legitimate. This procedure has come to be recognized as a practical method of completing wells within fixed zones or predetermined areas underground. The hole thus made differs from the ordinary crooked hole in that it does not wander uncontrolled from the desired course, but describes a long-radius bend to reach its objective. Such a hole is not difficult to line with casing, nor do the running of tubing and pumping present problems. In the ordinary crooked hole there are likely to be "dog legs," or sharp bends, which make it hard to run casing and tubing and then to produce the oil.

If a derrick must be located in such a position on the surface that a vertical hole would not reach the oil-bearing sand under the property owner's (not his neighbor's) lease, it needs no argument to show that the thing to do is to deflect the hole so that it will penetrate the oil-producing part of the formation.

In California there are oil fields under the ocean. To reach them from directly above the producing formation would require erection of piers and foundations away from the shore. It is simpler and cheaper to set derricks on the land and deflect holes under the sea to penetrate the sand bodies. These sand bodies belong to the state, and operators producing oil through deflected wells pay royalties to the state. Such wells are pumped successfully. There are no serious mechanical problems if deflected drilling is followed and the rate of deflection is gradual.

Another use of directed drill is seen in a unitized area where buildings or other property on the surface make it possible to drill at certain points only. Drilling sites have been chosen where the least damage to property is inflicted, vertical holes could be started and then deflected holes could be drilled from it to drain all portions of the land. In this way all parts of the unitized block would be drained and owners of surface rights would participate proportionately in profits.

The principle of multiple drilling on a one-well site is a patented one, covering the drilling of two or more wells by utilizing the same surface equipment, casing and primary hole. Before development of this procedure twin wells had been drilled under the same derrick in the Long Beach field in California, and these wells are still being pumped from the same derrick; but the holes in each case were drilled independently of each other instead of employing a primary hole. The multiple method reduces drilling costs through elimination of expensive foundations and other surface equipment in tideland development and makes it necessary to have only one rig and a primary hole for the two or more wells.

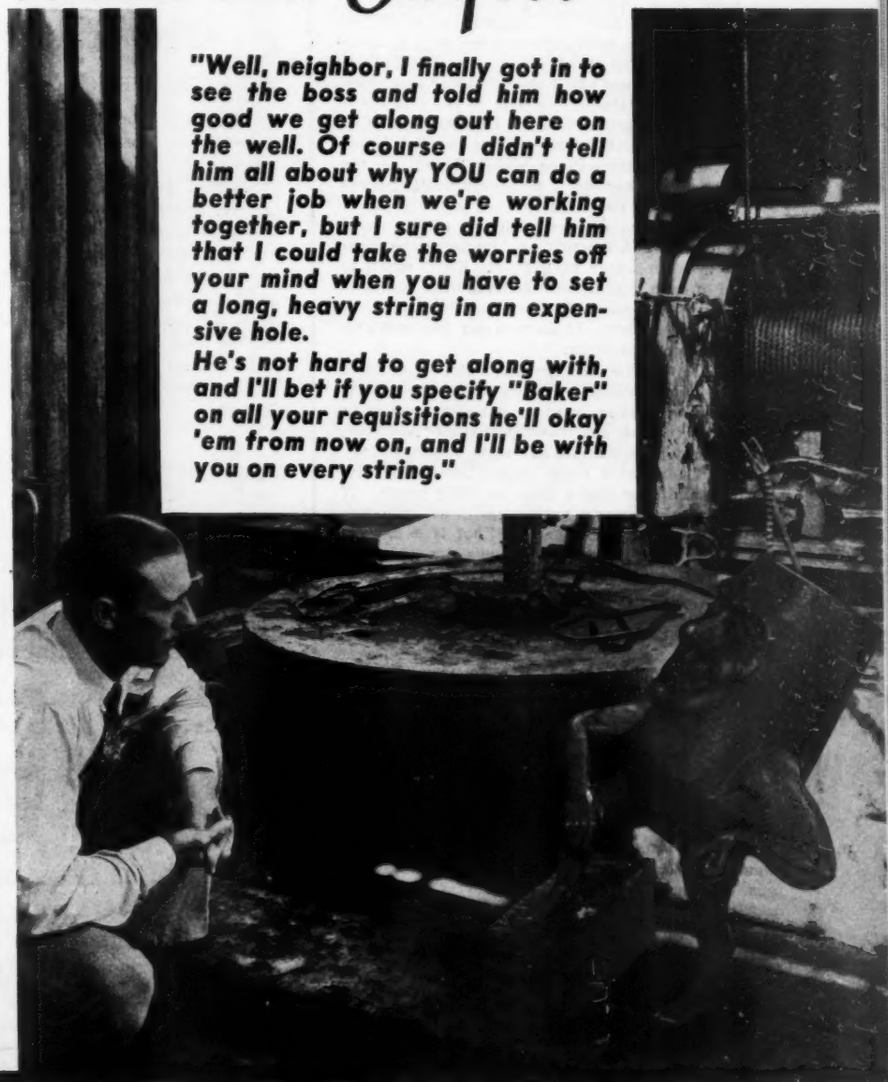
If I Could Talk to Each Executive at His Desk...

HERE IS WHAT I WOULD SAY:

"Your investment in every well is too great to take any chance whatever with equipment for guiding, floating and cementing strings of casing. Your field men know that I'm "tops" in safety and efficiency and they want me on every job.

Of course it's YOUR casing and YOUR well, but if you had been down in wells like I have you'd know what hard knocks and high pressure really are, and be mighty glad to let me take care of things for you."

and to Every Field Man I'd Say...



"Well, neighbor, I finally got in to see the boss and told him how good we get along out here on the well. Of course I didn't tell him all about why YOU can do a better job when we're working together, but I sure did tell him that I could take the worries off your mind when you have to set a long, heavy string in an expensive hole.

He's not hard to get along with, and I'll bet if you specify "Baker" on all your requisitions he'll okay 'em from now on, and I'll be with you on every string."

Safety and Economy are always present in full measure in every unit of Baker Cement Equipment. You are always certain of a balanced combination of the 3 vital features required for Guiding, Floating and Cementing strings of casing of any length . . .

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Baker gives you a heavy seamless steel shoe or collar containing a plug and valve which will withstand any pressures encountered in a well—with an ample factor of safety.

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Baker provides circulation areas large enough to permit unrestricted passage of cement but small enough to retain a "washdown" action. The buoyant Bakelite Ball floats in rotary mud or cement slurry and provides an instant, leakproof double-seal against either high or low pressure.

3—DRILLABILITY

Baker alone provides complete drillability with a plug made of concrete and a valve made of Bakelite (set vertically in the plug)—both being materials which are easily and quickly drilled up and circulated out of the hole. You can core immediately below the shoe, or drill safely ahead—no metal fragments ever are present to slow up or interfere with future operations.

Interesting details and illustrations are on Pages 169 to 180 of the 1936 Composite Catalog; or we will gladly send free to any oil man the complete Baker Catalog.

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BAKER CEMENT EQUIPMENT

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Heterogeneity Test Used for Inspection of Asphalt

What is the heterogeneity test used for the inspection of asphalt? If you have the directions for making the test, the details will be appreciated.—F. C.

The heterogeneity test, also known as the spot test and Oliensis test, was first described by G. L. Oliensis in 1933. It is an identifying test for petroleum asphalts that have been subjected to higher temperatures than normal in the regular steam-refining process. It serves to detect cracked asphalts, steam refined that have been accidently over-heated and the more highly blown asphalts that have been subjected to the higher temperatures for prolonged periods. It cannot be used to determine the origin or type, except as suggested in the previous sentence.

Heterogeneity may be caused by waxy bodies, acid sludge substances, the combination of incompatible fractions in so-called "synthetic" asphalts, and exposure to air.

The spot test is described in outline. Materials —The naphtha solvent shall be a straightrun distillate, free from cracked products, conforming to: Gravity, A.P.I. 49 to 50; Distillation—Initial boiling point above 300° F.; 50 per cent over 335° F.; endpoint, below 410° F. Apparatus—A 25 ml. Erlenmeyer flask, with cork stopper with 8 inches of one-quarter inch glass tubing; No. 50 Whatman filter paper; a glass plate, smooth, clear and clean.

Road oils containing less than 15 per cent off at 680° F. may be tested without treatment. For all others the test shall be made upon the distillation residue. Procedure—Place about 2 ml. in the flask, heat continuously if necessary until it flows over the bottom; cool, add 10.2 ml. of the naphtha, quickly insert the stopper with the tubing, swirl the contents for 5 seconds and immerse the flask to the neck in water at 212° F. Swirl again at the end of each minute for 5 seconds until complete dispersion takes place. Remove the flask and cool to room temperature. If there is any loss make up with additional naphtha.

If a drop of the mixture when placed on filter paper forms a brown or yellowish-brown circular stain, with a darker, solid or annular nucleus in the center, the test shall be reported as "positive". If a uniformly brown circular stain forms, set the mixture aside, with flask tightly stoppered, for 24 hours and then test a drop on filter paper. If the drop again forms a uniformly brown stain the test shall be reported "negative" but if a darker, solid or annular nucleus now forms the test shall be reported "positive".

The results may be confirmed by the test on the glass set at an angle of 45°. If, as the drop flows, there develops in the center a dull, matte streak, well defined against the smooth glossy-brown outer zone, the test shall be reported as "positive."

References: Oliensis, Proceedings A.S.T.M., 33, Part II, 715, 1933. See also Proceedings 39th meeting 1936.

Naphthenic Acid Extraction From Petroleum Fractions

Would it be possible for you to give me some information regarding the extraction of naphthenic acid from petroleum? What use is made of naphthenic acid?—D. N. E.

The chief source of naphthenic acid when obtained from petroleum is the kerosene and gas oil fractions from which it is extracted by washing with alkali and then acidifying the extract.

Important uses for naphthenic acids, in the form of naphthenates, include—soaps, waterproofing, antiseptical preparations, fungicides, insecticides, wood preservatives, greases and paint driers.

The sodium naphthenate is combined with trisodium phosphate and triethanolamine for use as a carpet soap. Another soap, used for dry cleaning, contains carbon tetrachloride, cyclohexanol and sodium naphthenate. Lead naphthenate, with paraffin wax, is used for waterproofing canvas, also to prevent fungus action.

The zinc naphthenate is a valuable aid for grinding, acting as a dispersing medium, in the manufacture of paints. The zinc naphthenate has a further use in paints; because of its antiseptic properties it acts to prevent damage by fungus growths. The important form as a wood preservative, especially in the treatment of boats and wharves, is the combination of the iron, zinc, copper or lead naphthenates with other compounds. A 20 per cent solution in naphtha is widely used. The copper naphthenate is permanent and may be covered with a paint or varnish.

References: V. L. Shipp, The Naphthenic Acid Industry, The Oil and Gas Journal, March 19, 1936, page 56.
H. C. Bryson, Novel Applications of Metallic Soaps, Oil & Colour Trades J., June 12, 1936, page 1,912.
See this page, The Oil and Gas Journal, July 9, 1936.

SPECIFICATIONS

MINERAL LUBRICATING GREASE

This is a federal specification covering three grades, soft, medium and hard, of cup grease.

Mineral lubricating grease shall be a smooth, homogeneous mixture of mineral oil and pure odorless lime soap made from animal or vegetable fats or oils or fatty acids, completely saponified with hydrated lime, and shall be suitable for the lubrication of such parts of motor equipment and other machinery as are lubricated by means of compression cups, and for use in ball and roller bearings.

The material shall comply with the following:

	TEST		
Grease:	Soft	Medium	Hard
Penetration	300-355	240-290	190-230
Mineral oil content, per cent (min.)	85	80	75
Water content, per cent (max.)	1.5	2.0	2.0
Ash as sulfates, per cent (max.)	5.0	6.0	8.5
Uncombined CaO, per cent (max.)	0.10	0.10	0.10
Insoluble matter, per cent (max.)	0.10	0.10	0.10
Corrosion	nil	nil	nil
Mineral oil constituent:			
Vis. at 130° F., Saybolt universal sec. (min.)	125	125	125
Flash point, °F., (min.)	340	340	340
Fire point, °F., (min.)	370	370	370

The grease shall contain no fillers and shall possess only a slight odor of mineral oil.

Reference: Federal Standard Stock Catalog, Sec. 4, part 5, VV-G-681.

Condition of Lubricating Oils as Related to Bearing Performance

A petroleum technologist with one of the larger oil company's has offered the comments following concerning the discussion which appeared under the title "Corrosion of Special Bearings Caused by Several Factors", on this page in the issue of June 18th.—Editor.

"I think that you are doing very good work in clearing up some generally misunderstood points in the oil industry, although in this article I do not think that you have fully embraced the opportunity to clear up a great deal of confusion and misunderstanding that has existed and is developing on the problem of corrosion or deterioration of bearings. From our studies I have concluded that the so-called corrosion of bearings is largely a case of direct oxidation, and that the automotive industry particularly has become very much confused in blaming "acidity" developed in the oil, as the primary cause. You mention the occasional superior performance in this respect of low grade, slightly refined oils, and the probability of the formation of a varnish-like protective film on the bearings. You also give data on the development of neutralization number, and give results of similar order for a number of different types of oils.

"Many people appear to assume that a test for neutralization number, or alkali neutralizing effect, really is a direct indication of corrosive acid compounds, whether the reacting substance be mild oxy-acids or stronger acids. Although these oxy-acids may contribute to a minor extent toward the deterioration of bearings, direct oxidation for a bearing running too warm and with insufficient oil film present appears to me to be the main culprit. There are many ways for reducing this action, along the lines you discuss, although the problem is an extremely complicated one, as you say. There is also a tendency for many to accept generalizations in regard to 'corrosiveness' of all solvent refined oils, as compared with a reduced effect for oils refined by other methods. The method of refining oil is not a criterion of its quality or performance, but the physical properties of finished oils are the real criteria. This misunderstanding has been an unfortunate one. A good or bad oil can be developed by any generally used refining method.

"The evidence does not indicate that these acids are directly corrosive to bearings, although they may act as accelerators or carriers for some oxidation. The following points indicate that these oxy-acids are not the main culprits as to trouble with alloy bearings:

"1. Reasonable reduction in the temperature of the operating bearing reduces markedly and often eliminates the trouble.

"2. The development of neutralization numbers for all oils, with relatively small differences for many oils, that give better performance than others, as noted by you, would not account for marked differences in bearing corrosion, as oils developing neutralization numbers varying but a few tenths would certainly not vary greatly in degree of corrosion, if these oxy-acids were responsible.

"3. Variation in degree of trouble with different designs of motors, with most trouble encountered where the factor of adequate cooling for bearings for high speed engines has not been fully met, indicates frequent faulty engine design."

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

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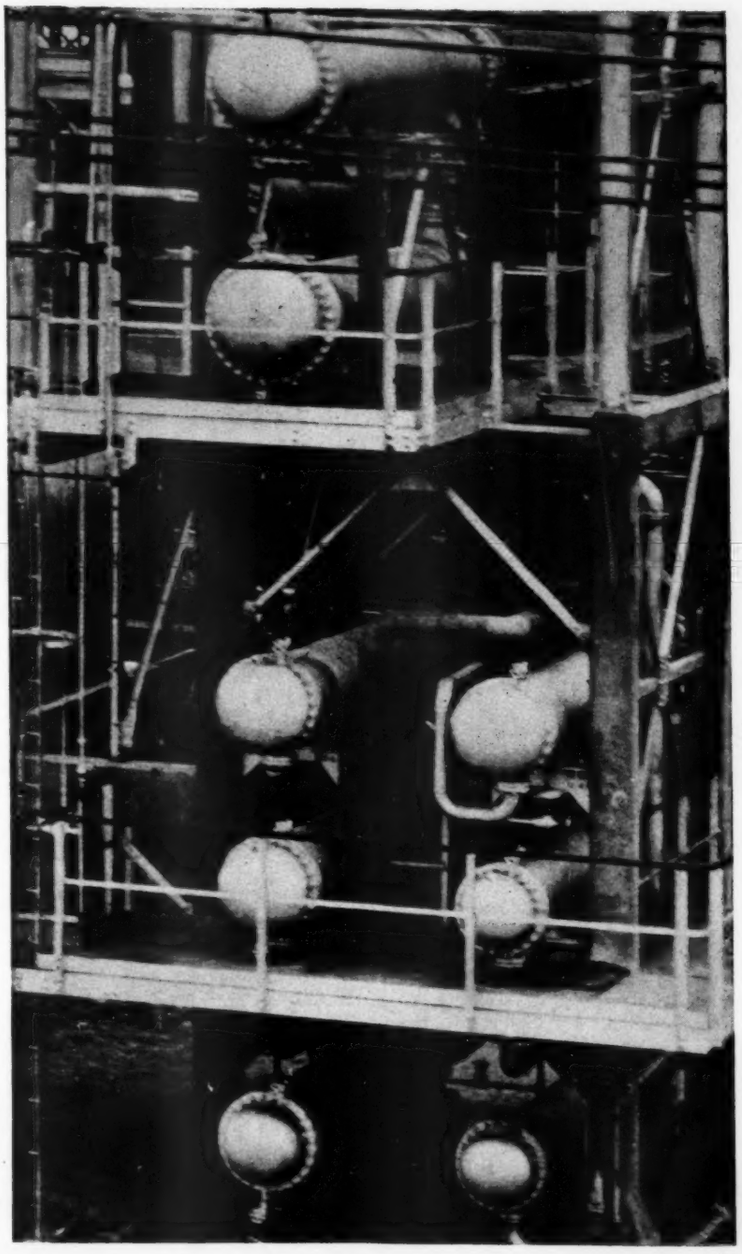

are installed in the leading refineries both in this country and abroad. ■

This is due to the fact that:

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Materials are selected by authorities on metals suitable for refinery operating conditions. ■

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LOOK
Any derrick

Exports of All Refined Products Show Increase During First Six Months

By H. STANLEY NORMAN

An increase of more than 50 per cent in gas oil and fuel oil shipments from this country with more modest gains in exportation of crude, refined products and gasoline is indicated for the first half of the year. The indication of satisfactory gains in shipment of oil from this country is given in reports from the Bureau of Mines covering the first five months of the year.

In data complete for the first six months of 1936 supplied from the reports by the American Petroleum Institute, importations of oil at principal United States ports increased 1,233,000 bbls. over the same period in 1935. The grand total of imports is calculated at 26,311,000 bbls. through June this year, compared to 25,078,000 bbls. for the same period in 1935. The increase was confined entirely to crude oil which totals 15,645,000 bbls. for the six months ended June 30, against 14,308,000 bbls. for the 1935 first half.

Importations declined at some of the country's leading ports during the first half of the year, but the gain of about 3,500,000 bbls. in shipments to New York more than offset the shrinkage elsewhere. Importations credited to New York harbor advanced from 9,741,000 bbls. for the first half of 1935 to 13,344,000 bbls. from January through June this year. There were no other such outstanding changes, although shipments to Boston declined from 3,383,000 bbls. in the first half of 1935 to 2,018,000 bbls. this year.

There was a gain of more than 50 per cent in shipments of gas oil and fuel oil from this country's refiners during the first five months of 1936 reported by the Bureau of Mines. The export business in these two products jumped from 9,369,000 bbls. in the first five months of 1935 to 14,299,000 bbls. this year. Gasoline shipments advanced from 9,575,000 to 11,089,000 bbls., a gain of 1,514,000 bbls., and foreign commerce in "refinery products" climbed from 26,243,000 to 32,368,000 bbls., during the five-month periods under review. Crude oil export business gained from 16,843,000 to 17,829,000 bbls. this year, an advance of 986,000 bbls.

The movement of California oil to Atlantic Seaboard ports continued to shrink during the first half of 1936. Total receipts of California products dropped to 4,131,000 bbls., in the first half of 1936, compared to 5,765,000 bbls. last year. Gasoline receipts from Pacific Coast refiners to Atlantic ports dropped to 3,101,000 bbls. for the first half this year, against 3,875,000 bbls. in a like 1935 period. Philadelphia was the only Atlantic port at which California shipments were maintained on an equal footing with 1935 and at that harbor there was an increase of only 4,000 bbls. to 1,456,000 bbls. for the six-month period. California shipments of gasoline to the Atlantic Seaboard territory were off 774,000 bbls.; kerosene slumped 290,000 bbls. and fuel oil 603,000 bbls., below last year.

In the first five months of this year, the United States is credited with shipping 17,829,000 bbls. of crude oil to export trade, compared with 16,843,000 bbls. during the same period in 1935. There was also a gain of 227,000 bbls. in export of lubricating oil bringing the total for the first five months this year up to 3,621,000 bbls.

Table 1—Imports and Exports for First Five Months of 1936

(Data based on Bureau of Mines reports)

Year—	Crude oil (bbls.)	Refinery products (bbls.)	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oil (bbls.)	Lubricants (bbls.)	Wax (lbs.)
IMPORTS							
1936	12,853,000	9,402,000	.....	1,000	6,906,000	.....	6,866,000
1935	12,554,000	9,158,000	20,000	.....	8,980,000	.....	11,501,000
1934	14,098,000	5,774,000	1,000	.....	5,642,000	.....	23,511,000
EXPORTS							
1936	17,829,000	32,368,000	11,089,000	2,360,000	14,299,000	3,621,000	79,405,000
1935	16,843,000	26,243,000	9,575,000	2,768,000	9,369,000	3,394,000	86,620,000
1934	15,047,000	31,065,000	11,135,000	3,833,000	11,708,000	3,397,000	85,629,000

Table 2—Imports of Crude Oil and Refinery Products for First Half of 1936 at Principal Ports

(Data derived from A.P.I. reports)

	Baltimore (bbls.)	Boston (bbls.)	New York (bbls.)	Philadelphia (bbls.)	Others (bbls.)	Total (bbls.)	Gulf Coast (bbls.)	Grand total (bbls.)	Crude oil (bbls.)	Fuel oil (bbls.)	Gas oil (bbls.)	Other pet. oils (bbls.)
January	356,000	246,000	1,551,000	788,000	68,000	3,009,000	258,000	3,267,000	1,809,000	1,458,000	.....	.....
February	266,000	539,000	1,955,000	787,000	76,000	3,263,000	310,000	3,933,000	2,780,000	1,153,000	.....	.....
March	498,000	291,000	2,269,000	736,000	101,000	3,895,000	219,000	4,114,000	2,382,000	1,732,000	.....	.....
April	628,000	441,000	2,450,000	728,000	120,000	4,367,000	639,000	5,006,000	2,966,000	1,815,000	155,000	70,000
May	529,000	339,000	2,678,000	931,000	378,000	4,855,000	364,000	5,219,000	3,054,000	2,121,000	.....	44,000
June	402,000	162,000	2,441,000	801,000	332,000	4,138,000	634,000	4,772,000	2,654,000	1,972,000	.....	146,000
First half 1936	2,679,000	2,018,000	13,344,000	4,771,000	1,075,000	23,527,000	2,424,000	26,311,000	15,645,000	10,251,000	155,000	260,000
First half 1935	2,082,000	3,383,000	9,741,000	4,659,000	1,525,000	21,390,000	3,688,000	25,078,000	14,308,000	10,770,000	.....	.....
First half 1934	2,013,000	190,000	14,377,000	4,540,000	1,707,000	22,827,000	728,000	23,555,000	15,787,000	7,768,000	.....	.....

Table 3—First Half 1936 Receipts of California Products at Atlantic Ports

(Data derived from A.P.I. reports)

	Baltimore (bbls.)	Boston (bbls.)	New York (bbls.)	Philadelphia (bbls.)	Others (bbls.)	Total (bbls.)	Gulf Coast (bbls.)	Grand total (bbls.)	Gasoline (bbls.)	Kerosene (bbls.)	Fuel oil (bbls.)	Other pet. oils (bbls.)
January	30,000	55,000	102,000	351,000	226,000	764,000	.....	764,000	393,000	133,000	238,000	.....
February	38,000	52,000	.....	189,000	221,000	500,000	.....	500,000	259,000	150,000	91,000	.....
March	53,000	.....	351,000	230,000	139,000	773,000	.....	773,000	693,000	80,000	.....	.....
April	77,000	.....	.....	350,000	153,000	580,000	.....	580,000	507,000	.....	73,000	.....
May	.....	.....	507,000	220,000	216,000	943,000	.....	943,000	831,000	79,000	.....	33,000
June	.....	47,000	147,000	116,000	261,000	571,000	.....	571,000	418,000	153,000	.....	.....
First half 1936	198,000	154,000	1,107,000	1,456,000	1,216,000	4,131,000	.....	4,131,000	3,101,000	595,000	402,000	33,000
First half 1935	397,000	214,000	1,829,000	1,452,000	1,882,000	5,765,000	.....	5,765,000	3,875,000	885,000	1,005,000	.....
First half 1934	851,000	2,008,000	5,414,000	1,626,000	4,249,000	14,153,000	.....	14,153,000	3,523,000	1,096,000	*9,534,000	.....

*Includes 8,000 bbls. lubricating oils.

Six Months' Average Price of Service Station Gasoline Highest Since 1930

By D. H. STORMONT

The United States motorist paid an average of 14.12 cents a gallon for his gasoline during the first six months of 1936, whereas in the like period of 1935 he received his motor fuel for an average price of 13.02 cents per gallon. These figures, which represent the price paid for regular grade or middle octane gasoline, are based on motor fuel prices in 50 cities throughout the United States. In addition to this price of 14.12 cents per gallon, the motorist paid federal and state taxes which ranged from 3 cents in Washington, D. C., to 9 cents in several of the southern states. The average tax on motor fuel changed but little during this period, being 5.36 cents per gallon on July 1 as compared with 5.38 cents on January 1, 1936.

Entering 1936 with the price of regular motor fuel at 13.70 cents, prices were generally increased throughout the United States in the middle of January following raises in crude oil prices and the resulting increase in refinery gasoline prices. The composite price on February 1 was .51 cent greater than that on January 1. Then in March, as stocks of motor fuels increased at an alarmingly fast rate, despite the fact that consumption was higher than in 1935, the average price declined to the year's low, 13.87 cents per gallon on April 1. During April prices on the West Coast were restored to normal following several weeks of price cutting so that the average price advanced to 14.27 cents on May 1. The average price on June 1 was the high of the first half, 14.31 cents, and then during June, as prices were reduced in a few eastern points, the average declined to 14.28 cents on July 1. Thus the general upward trend in service station prices, which began in the early part of 1935, has continued until the point reached on July 1 was 1.38 cents higher than on January 1, 1935.

The highest service-station price in effect on July 1, including taxes of 6 cents, was 25 cents at Twin Falls, Idaho. Close behind this high point were Billings, Helena and Great Falls, Mont., and Boise, Idaho, with prices of 24.5 cents per gallon, including taxes. The city having the lowest price on July 1 was Providence, R. I., where the unusually low price of 15.5 cents prevailed.

In the accompanying tables is offered a summation of the monthly average prices in effect on the first of each month since 1927 and in the other tables is offered a comparison of the prices in effect on January and July 1, according to geographical location. The large table on the following page reflects price changes taking place in each of the 50 cities during the first six months.

An examination of the tables presenting the country's gasoline prices in effect on January 1 and July 1, according to geographical location, shows that 38 of the 50 cities represented were paying more on July 1 than on January 1. Ten cities were receiving their gasoline cheaper. In only two cities, Boise, Idaho, and Dallas, Tex., were the prices on the same level. Five of the eight cities with lower prices on July 1 were located in the Atlantic and New England states group.

Year-to-Year Trend of Retail Gasoline Prices

Average Service-Station Prices in Cents in 50 Representative Cities, Exclusive of Taxes

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
January 1	20.25	16.41	18.32	17.23	14.56	12.87	12.54	14.32	12.90	13.70
February 1	20.16	16.38	17.59	16.96	14.83	12.97	11.63	13.87	13.16	14.21
March 1	19.63	16.80	17.21	16.28	14.86	12.91	11.49	14.18	13.22	14.22
April 1	18.79	17.16	17.38	15.92	13.68	13.18	11.58	13.57	13.28	13.87
May 1	17.97	17.47	17.48	16.95	12.40	13.59	11.60	13.55	13.64	14.27
June 1	17.25	17.56	18.32	17.01	12.21	13.68	10.82	13.93	13.90	14.31
July 1	17.38	17.56	18.48	16.56	12.46	14.21	13.06	14.06	14.00	14.28
August 1	17.39	18.12	18.22	16.47	12.41	14.02	13.52	13.98	14.10	...
September 1	17.13	18.40	18.32	16.26	12.21	13.65	14.00	13.89	13.78	....
October 1	16.81	18.70	18.32	15.93	12.34	12.46	14.45	13.55	13.42	....
November 1	16.72	18.05	17.84	15.41	12.32	13.04	14.30	11.92	13.46	....
December 1	16.71	18.39	17.51	14.96	12.89	12.96	14.17	12.43	13.69	....
Average	18.01	17.63	17.91	16.33	13.09	13.30	12.76	13.60	13.55	14.12

Comparison of Net Service-Station Prices January 1, 1936, and July 1, 1936

Atlantic and New England States

	Jan. 1 1936	July 1 1936
Portland, Me.	13.5	13.0
Burlington, Vt.	15.0	15.5
Hartford, Conn.	13.5	12.0
Springfield, Mass.	13.0	13.5
New York, N. Y.	11.8	14.2
Philadelphia, Pa.	13.5	12.5
Providence, R. I.	13.0	12.5
Newark, N. J.	13.3	13.5
Baltimore, Md.	13.0	13.5
Dover, Del.	13 5	12.0
Washington, D. C.	13.0	13.5
Average	13.3	13.2

Central

	Jan. 1 1936	July 1 1936
Fargo, N. D.	14 9	15 4
Huron, S. D.	14.4	14.9
Wichita, Kans.	12.4	12.9
Omaha, Neb.	13.9	14.4
Tulsa, Okla.	13.0	14.0
Dallas, Tex.	12.0	12 0
Little Rock, Ark.	13 5	14.0
Kansas City, Mo.	12.9	13.4
Des Moines, Iowa	13.2	13 8
Duluth, Minn.	14.3	14.8
Minneapolis, Minn.	13.9	14.4
Milwaukee, Wis.	11.8	13 3
Chicago, Ill.	12.0	13.5
Peoria, Ill.	11.5	14 0
Detroit, Mich.	11.5	13.0
Indianapolis, Ind.	14.4	14.9
Cleveland, Ohio	14.0	14.5
Average	13.2	14.0

Southeastern

	Jan. 1 1936	July 1 1936
Norfolk, Va.	12 9	13.5
Charleston, W. Va.	13.8	14.3
Louisville, Ky.	14.5	15.0
Memphis, Tenn.	14.0	14 5
Atlanta, Ga.	16.0	15.5
Charlotte, N. C.	14.7	14.9
Charleston, S. C.	13.0	13.5
Jackson, Miss.	14.0	15.0
Birmingham, Ala.	15.5	14.0
New Orleans, La.	13.5	13.0
Jacksonville, Fla.	13.0	12.0
Average	14.1	14.1

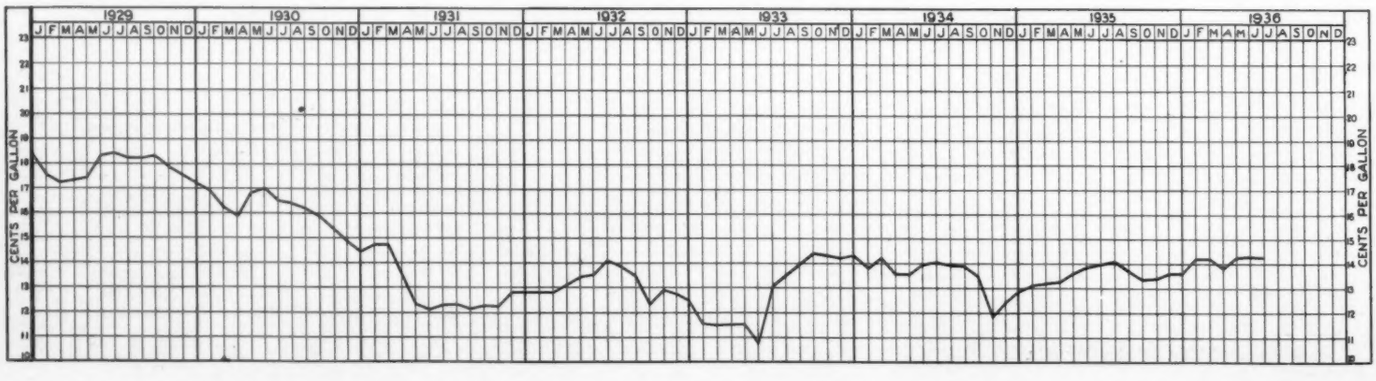
Midwestern

	Jan. 1 1936	July 1 1936
Helena, Mont.	17.5	18.5
Boise, Idaho	18.5	18.5
Casper, Wyo.	15.5	16.5
Reno, Nev.	14.0	15.5
Salt Lake City, Utah	13.0	18.0
Denver, Colo.	15.0	16.0
Phoenix, Ariz.	14.0	16.0
Albuquerque, N. Mex.	15.5	14.0
Average	15 3	16 6

Western Coast

	Jan. 1 1936	July 1 1936
San Francisco, Calif.	12.0	14.0
Portland, Ore.	12.5	14.5
Seattle, Wash.	12 5	14 5
Average	12.3	14.3

Trend of Gasoline Service Station Prices, Exclusive of Taxes, in 50 Representative Cities Throughout the United States



It will be seen by reference to the tables that the average price in the New England and Atlantic states, the nation's heaviest consuming area, was lower on July 1 than on January 1 by .1 cent. This was the only area to show a decrease. In the Central states, which includes the Mid-Continent and the huge Chicago distributing area, the average price increased from 13.2 cents to 14 cents on July 1. In the Southeastern states the price remained the same, while in the Midwestern and Western Coast states the average advanced 1.3 and 2 cents, respectively. The large advance in the latter two sections are accounted for by the restoring of normal prices by Continental Oil Co. and Standard Oil Co. of California, two of the largest marketing companies in those areas.

One trend particularly noticeable during the last six months has been the increasing tendency for the large integrated oil companies to lease out their stations to individual operators. This movement, generally known as the Iowa plan, or a modification of this plan, received added impetus a little over a year ago with the passing of Iowa's chain-store tax law. The oil company leases its station outright to an independent dealer and has no control over the pump prices of gasoline, except merely in the capacity of an advisor. The operator sets his own prices, pays all bills, and generally operates the station as he desires. If the dealer wishes to lower his prices to the point where he can no longer operate at a profit, he may do so. The oil company supplies him at the current market tank-wagon prices and the dealer adds to this price his margin of profit.

Standard Oil Co. of New Jersey is one recently adopting the policy of leasing its stations to independent dealers. In the past few weeks it has transferred stations at many points in North Carolina and more recently in Washington, D. C., and Baltimore. The company is continuing to post consumer tank-wagon and dealer tank-wagon prices at these points, but has discontinued the policy of establishing service-station prices. Standard Oil Co. of Louisiana is also adopting this policy at points in Louisiana.

While there are many good arguments for and against the Iowa plan, or the plan in its modified

(Continued on Page 175)

Gasoline Service Station Prices in Effect During First Six Months of 1936, in Fifty Representative Cities, With Price Changes and Dates

Gasoline Taxes in Effect January 1, and July 1, 1936

	Price Jan. 1, 1936	Price changes in first six months											Price July 1, 1936	Fed. and state taxes	
		January			February		March	April		May			June		Jan. 1	July 1
Birmingham, Ala.	15.5	1/11 14.5	1/21 15.0	....	....	....	....	....	....	5/7 14.0	5/21 15.0	5/29 14.0	....	14.0	8.0	8.0
Phoenix, Ariz.	14.0	....	....	....	....	....	3/3 11.5	4/1 14.0	4/13 16.0	....	....	....	....	16.0	6.0	6.0
Little Rock, Ark.	13.5	1/17 14.0	....	....	....	....	....	....	....	....	....	....	....	14.0	7.5	7.5
San Francisco, Calif.	12.0	....	....	....	....	....	3/3 9.5	4/1 12.0	4/13 14.0	....	....	....	....	14.0	4.0	4.0
Denver, Colo.	15.0	1/14 16.0	....	....	....	....	3/17 14.0	4/30 15.0	....	5/27 16.0	....	....	....	16.0	5.0	5.0
Hartford, Conn.	13.5	1/29 14.0	....	....	....	....	....	....	....	5/14 13.0	....	....	6/30 12.0	12.0	4.0	4.0
Washington, D. C.	13.0	1/16 13.5	....	....	....	....	....	....	....	....	....	....	....	13.5	3.0	3.0
Dover, Del.	13.5	1/13 14.0	....	....	....	....	3/19 12.0	....	....	....	....	....	....	12.0	5.0	5.0
Jacksonville, Fla.	13.0	1/16 11.5	1/21 12.0	....	....	....	....	....	....	....	....	....	....	12.0	8.0	8.0
Atlanta, Ga.	16.0	....	....	....	2/28 15.5	....	....	....	....	....	....	....	....	15.5	7.0	7.0
Boise, Idaho	18.5	....	....	....	....	....	....	....	....	....	....	....	....	18.5	6.0	6.0
Chicago, Ill.	12.0	1/17 12.5	....	....	....	....	....	4/15 13.0	....	5/14 13.5	....	....	....	13.5	4.0	4.0
Peoria, Ill.	11.5	1/17 12.0	....	....	2/19 14.0	....	....	....	....	....	....	....	....	14.0	4.0	4.0
Indianapolis, Ind.	14.4	1/17 14.9	....	....	....	....	....	....	....	....	....	....	....	14.9	5.0	5.0
Des Moines, Iowa	13.3	1/17 13.8	....	....	....	....	....	....	....	....	....	....	....	13.8	4.0	4.0
Wichita, Kans.	12.4	1/17 12.9	....	....	....	....	....	....	....	....	....	....	....	12.9	4.0	4.0
Louisville, Ky.	14.5	1/21 15.0	....	....	....	....	....	4/21 14.0	....	5/22 15.0	....	....	....	15.0	6.0	6.0
New Orleans, La.	13.5	1/18 14.0	....	....	2/15 12.5	....	3/10 13.0	....	....	....	....	....	....	13.0	9.0	9.0
Portland, Me.	13.5	1/20 14.5	1/20 14.0	1/31 13.0	....	....	....	....	....	....	....	....	....	13.0	5.0	5.0
Baltimore, Md.	13.0	1/16 13.5	....	....	....	....	....	....	....	....	....	....	....	13.5	5.0	5.0
Springfield Mass.	13.5	....	....	....	....	....	....	....	....	....	....	....	....	13.5	4.0	4.0
Detroit, Mich.	11.5	1/17 12.0	....	....	....	....	....	....	....	5/29 12.5	....	....	6/23 13.0	13.0	4.0	4.0
Duluth, Minn.	14.3	1/17 14.8	....	....	....	....	....	....	....	....	....	....	....	14.8	4.0	4.0
Minneapolis, Minn.	13.9	1/17 14.4	....	....	....	....	....	....	....	....	....	....	....	14.4	4.0	4.0
Jackson, Miss.	14.0	1/21 14.5	1/30 15.0	....	....	....	....	....	....	....	....	....	....	15.0	7.0	7.0
Kansas City, Mo.	12.9	1/17 13.4	....	....	....	....	....	....	....	....	....	....	....	13.4	4.0	4.0
Helena, Mont.	17.5	1/17 18.5	....	....	....	....	....	....	....	....	....	....	....	18.5	6.0	6.0
Omaha, Neb.	13.9	1/17 14.4	....	....	....	....	....	....	....	....	....	....	....	14.4	6.0	6.0
Reno, Nev.	14.0	....	....	....	....	....	3/3 11.0	4/1 13.5	4/13 15.5	....	....	....	....	15.5	5.0	5.0
Newark, N. J.	13.3	1/16 13.8	....	....	2/5 12.8	2/20 13.8	....	....	....	....	....	....	6/10 13.8	13.5	4.0	4.0
Albuquerque, N. M.	15.5	1/14 16.5	....	....	....	....	....	4/7 14.0	....	....	....	....	....	14.0	6.5	6.5
New York City, N. Y.	11.8	1/18 13.5	1/29 13.7	....	2/20 14.2	....	....	....	....	....	....	....	....	14.2	5.0	4.0
Charlotte, N. C.	14.7	1/16 15.2	....	....	....	....	....	....	....	5/18 14.9	....	....	....	14.9	7.0	7.0
Fargo, N. D.	14.9	1/17 15.4	....	....	....	....	....	....	....	....	....	....	....	15.4	4.0	4.0
Cleveland, Ohio	14.0	1/15 14.5	....	....	....	....	....	....	....	....	....	....	....	14.5	5.0	5.0
Tulsa, Okla.	13.0	1/17 14.0	....	....	....	....	....	....	....	....	....	....	....	14.0	5.0	5.0
Portland, Ore.	12.5	....	....	....	....	....	3/3 10.0	4/1 12.5	4/13 14.5	....	....	....	....	14.5	6.0	6.0
Philadelphia, Pa.	13.5	1/13 14.0	....	....	....	....	3/27 12.0	....	....	5/2 12.5	....	....	....	12.5	5.0	5.0
Providence, R. I.	13.0	1/17 12.0	....	....	....	....	3/19 12.5	....	....	....	....	....	6/15 12.5	12.5	3.0	3.0
Charleston, S. C.	13.0	1/16 13.5	....	....	....	....	....	....	....	....	....	....	....	13.5	7.0	7.0
Huron, S. D.	14.4	1/17 14.9	....	....	....	....	....	....	....	....	....	....	....	14.9	5.0	5.0
Memphis, Tenn.	14.0	1/18 14.5	....	....	....	....	....	....	....	....	....	....	....	14.5	8.0	8.0
Dallas, Tex.	12.0	1/13 13.0	....	....	2/24 12.0	....	3/28 13.0	4/22 12.0	....	5/31 13.0	....	....	6/20 12.0	12.0	5.0	5.0
Salt Lake City, Utah	13.0	1/15 15.0	1/30 18.0	....	....	....	....	....	....	....	....	....	....	18.0	5.0	5.0
Burlington, Vt.	15.0	1/20 15.5	....	....	....	....	....	....	....	5/20 15.0	5/29 15.5	....	....	15.5	5.0	5.0
Norfolk, Va.	12.9	1/16 13.5	....	....	....	....	....	....	....	....	....	....	....	13.5	6.0	6.0
Seattle, Wash.	12.5	....	....	....	....	....	3/3 10.0	4/1 12.5	4/13 14.5	....	....	....	....	14.5	6.0	6.0
Charleston, W. Va.	13.8	1/16 14.3	....	....	....	....	....	....	....	....	....	....	....	14.3	5.0	5.0
Milwaukee, Wis.	11.8	1/17 12.3	....	....	....	....	3/12 13.3	....	....	....	....	....	....	13.3	5.0	5.0
Casper, Wyo.	15.5	1/17 16.5	....	....	....	....	....	....	....	....	....	....	....	16.5	5.0	5.0
Average price	13.70	....	....	....	....	....	....	....	....	....	....	....	....	14.28	....	....

Prices of Refined Products Increased During First Six Months of 1936

By D. H. STORMONT

After passing through several years of abnormally low business, refiners during the first half of 1936 received for their various products prices that were generally more comparable with those prevailing prior to 1931.

Average prices of refined oils for this period were almost without exception higher than those of 1935 or the preceding four years. Even on the West Coast, where during the first few months of the year prices were greatly reduced due to a disrupted market, most of the refined products were able to record averages higher than those of last year. Therefore, as refining companies close their books for the first half of the year the great majority will be doing so in black instead of the formerly predominating red.

A study of the table showing average prices of the most important refinery products reveals that the first half of 1936 was a continuance of an upward trend in prices starting in 1933. Though a few products failed to adhere closely to this schedule, a comparison of 1933 and 1936 reveals that the prices are generally much higher now than in 1933, the year known as the industry's "worst ever." Since gasoline is known as the back-log of the petroleum industry, it may be taken as an indication of how the refining industry as a whole fares. In 1933 the average price of Group 3 gasoline was .0311 cents a gallon, California gasoline, .0523 cents and Pennsylvania gasoline, .0505 cents. In comparison to these prices, the averages for the first six months were .0498 cents, .0504 cents and .0562 cents, respectively.

GASOLINE PRICES STABLE

Because of the stability of the crude oil market in all areas, even though production was bordering on the 3,000,000-bbl. mark for a large part of the period and exceeding Bureau of Mines recommendations, refinery gasoline prices have fluctuated comparatively little over the first six months of this year. Following the advance in crude oil prices taking place the first few weeks in January, refinery gasoline prices were advanced in all sections except the West Coast. Here, due to a period of overproduction and disrupted markets, the beginning of a rising market was delayed until in March. Since the general increase, gasoline prices have declined one-eighth cent for most grades in the Mid-Continent and one-fourth cent in the Pennsylvania area. Gasoline prices on the West Coast, however, have continued to increase continuously since March as the industry became more stabilized.

Mid-Continent refined oil prices show the greatest improvement in comparison to 1935, this probably being due to the fact that refiners in that area bore the brunt of the flood of East Texas products that disrupted the market until brought under control. In this area gasoline prices averaged 13 per cent higher than in 1935, whereas the price of crude was 10 per cent higher. In California and Pennsylvania, crude price raises exceeded the gain in the price of gasoline, California gasoline advancing 2 per cent and Pennsylvania gasoline advancing 8 per cent.

Natural gasoline was the only product to show a decline in price in the Mid-Continent, the price of 26-70 decreasing from .0320 cents in 1935 to .0310 cents for the first six months of this year and the 18-55 grade falling off from .0404 cents to .0375 cents. However, since the best market for naturals is usually in the fall when refiners start blending their winter motor fuels, the market price is expected to advance so that the year's average will be increased. Another factor influencing the price of natural gasoline was the closing down of stripper plants in the Panhandle with the result of removing 250,000 to 300,000 gallons of this product daily from the market. California natural gasoline increased slightly in comparison with 1935 and on June 30 had advanced to the year's high, 7 cents a gallon. The natural gasoline market in that area has been definitely tight the past few months, the situation becoming so critical that some natural gasoline was shipped from Gulf ports, via the Panama Canal, to the West Coast.

BRIGHT AND STEAM REFINED STOCKS

Bright stocks and steam-refined stocks made impressive gains during the first months of the year. The market for these products was unusually strong throughout the first few months of the year, the improvement in their position being regarded as a sequel to heavy export shipments since July, 1935. The largest orders were from Italy, but several other European countries were also substantial buyers. Since the tendency in this country is toward use of lighter oils, there is no reason to suppose bright stocks would have reached this high level if there had been nothing but normal consumption to move them. The prices of these two products were approximately 3 cents higher in both Oklahoma and Pennsylvania in comparison to 1935.

Wax and heating oils also made slight advances and generally were in good demand the earlier months of the year. Furnace oils were exceptionally active as yearly they offer more competition to other fuels in the northern and eastern sections of the United States where there are no supplies of natural gas.

The unusually cold weather of the past winter placed refiners in an unusual position. Stocks of gasoline were generally recognized to be too burdensome, yet due to the unusually large demand for heating oils and kerosene they were forced to

(Continued on Page 175)

AVERAGE YEARLY PUBLISHED PRICES ON MOST IMPORTANT REFINERY PRODUCTS, 1927 TO JULY, 1936

(Price in Tankcar at Plant)

OKLAHOMA

	1st 6 mos. 1936	1935	1934	1933	1932	1931	1930	1929	1928	1927
U. S. Motor gasoline, per gal. (below 62 octane)	$.0498	$.0441	$.0363	$.0311	$.0392	$.0345	$.0634	$.0775	$.0795	$.0667
Natural gasoline, 26-70 (AA grade), per gal.	.0310	.0320	.0260	.0290	.0222	.03	.0524	.0683	.0734	.0575
41-43 water white kerosene, per gal.	.0394	.0353	.0322	.0279	.0315	.0231	.0358	.0517	.0517	.0461
Below 18 fuel oil, per bbl.	.6288	.6232	.5930	.3899	.3250	.2904	.5225	.5260	.6298	.8889
U.G.I. gas oil, per gal.	.0241	.0233	.0201	.0146	.0146	.0127	.0227	.0265	.0247	.0299
200 vis. neutral, 3 color, per gal. (15-20 cold test)	.1075	.1075	.0994	.0845	.0834	.0924	.1059	.0966	.0947	.1032
124-126 wax, per lb.	.0245	.0224	.0346	.0253	.0170	.0174	.0216	.0321	.0394	.0294
150-160 D color bright stock, per gal.	.1756	.1496	.2030	.1852	.1837	.1631	.2977	.3368	.2310	.....
Crude (36 A.P.I. gravity), per barrel	1.10	1.00	1.00	.62	.88	.63	1.23	1.37	1.31	1.38

CALIFORNIA

	1st 6 mos. 1936	1935	1934	1963	1932	1931	1930	1929	1928	1927
U. S. Motor gasoline, per gal. (below 60 octane)	$.0504	$.0552	$.0624	$.0523	$.0546	$.0510	$.0806	$.0849	$.0919	$.0873
Natural gasoline, 75-85, 375 e.p., per gal.	.0533	.0506	.0575	.0462	.0447	.0418	.0712	.0803	.0726	.093
38-40 kerosene, per gal.	.0331	.0409	.0458	.0384	.0398	.0425	.0455	.0569	.0611	.07
27 plus diesel*	1.0710	1.084	1.0320	.8406	.7432	.7510	.8365	.9000	1.1500	1.1500
Crude (25 A.P.I. gravity, Signal Hill), per barrel	.97	.85	.94	.84	.83	.76	1.16	1.105	.96	1.00

PENNSYLVANIA

	1st 6 mos. 1936	1935	1934	1933	1932	1931	1930	1929	1928	1927
U. S. Motor gasoline, per gal. (below 60 octane)	$.0562	$.0521	$.0519	$.0505	$.0568	$.049	$.0737	$.0905	$.0982	$.09
45 water white kerosene, per gal.	.0529	.0467	.0448	.0446	.0451	.04	.0501	.0651	.0635	.0646
Bright stock, 10-15 pour test, per gal.	.2298	.1990	.2540	.2407	.2466	.2094	.3373	.4745	.3186	.3326
Crude (in National Transit Lines), per barrel	2.44	2.17	2.47	1.86	1.88	1.81	2.55	3.69	2.98	2.87

*1936 price is on 24 plus diesel.

HERE IS ONE DOCTOR WHO TAKES HIS OWN MEDICINE

THERE has been a lot said about overproduction in the oil industry. Strangely enough some of the oil companies have taken little interest in increasing the consumption of their own products.

Here is one of them, the Atlantic Pipe Line Company, which believes it is economically sound to develop its own power from its own products.

Atlantic Pipe Line pumps are motor driven but the power is generated by Cooper-Bessemer 340 H. P. Type-JT Diesel engines. Seven of these units were put into operation in May, 1933. The Mt. Enterprise Texas Station containing three of these Diesels is illustrated. The engines operate on East Texas crude oil.

Cooper-Bessemer Diesels range in size from 50 to 1250 H. P. They are built for stationary, railway and marine service.

1833 to 1936

1833 to 1936

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2. As further protection against scoring, soft zinc alloy wire is twisted with yarn of this select asbestos fibre.
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5. Baked, calendered and compressed into a uniform mass that is impervious to oil, grease, or moisture.
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Deep Well Woven is made in a complete range of sizes covering every requirement of brakes or clutches used on oil field equipment.

GATKE CORPORATION 228 N. La Salle Street Chicago, Ill.

AVERAGE DOMESTIC AND EXPORT REFINED PRICES OVER PAST THIRTY MONTHS

(QUOTATIONS F.O.B. PLANTS AND TERMINALS)

	1st 6 mos. 1936			1935					1934				
	Average price	High	Low	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.
GASOLINES—													
Oklahoma (Group 3):													
U. S. Motor grades:													
Regular, 68-70 octane	.0601	.06⅛	.05⅝	.0492	.05⅝	.03¼	.0422	.0551	.0444	.04¾	.03⅝	.0447	.0440
Third grade, below 62 octane	.0498	.05¼	.04¾	.0441	.04¾	.03¼	.0407	.0475	.0363	.04¼	.02½	.0370	.0355
60-62 400 (no octane rating)	.0498	.05¼	.04¾	.0443	.04¾	.03⅜	.0410	.0475	.0372	.04⅜	.02⅝	.0384	.0359
64-66 375	.0514	.05⅜	.04⅞	.0459	.04⅞	.03¾	.0431	.0487	.0410	.04½	.03½	.0421	.0399
North Texas:													
U. S. Motor, below 62 octane	.0496	.05¼	.04¾	.0442	.04¾	.03¼	.0409	.0475	.0361	.04⅛	.02¾	.0365	.0356
64-66 375	.0521	.05¼	.04⅞	.0459	.04⅞	.03⅝	.0430	.0487	.0403	.04⅝	.03⅜	.0418	.0387
Pennsylvania:													
U. S. Motor, below 60 octane	.0562	.05¾	.05¼	.0521	.06½	.04	.0496	.0546	.0519	.05¾	.04½	.0510	.0528
California:													
54-58, U. S. Motor	.0504	.07	.03¾	.0552	.07	.03½	.0672	.0434	.0624	.08	.04	.0555	.0692
New York (Bayonne, N. J.):													
U. S. Motor, below 65 octane	.0688	.07	.06½	.0594	.06½	.05½	.0578	.0610	.0588	.06¼	.05½	.0591	.0585
65 octane and above	.0713	.07¼	.06¾	.0619	.06¾	.05¾	.0602	.0635	.0613	.06½	.05¾	.0616	.0610
Gulf Coast (domestic):													
U. S. Motor, below 65 octane	.0576	.06	.05⅜	.0521	.05⅜	.05	.0515	.0527	.0505	.05⅞	.04¼	.0514	.0495
U. S. Motor, 65 octane and above	.0596	.06⅛	.05⅝	.0541	.05⅝	.05¼	.0530	.0552	.0536	.06	.05	.0544	.0528
NAPHTHAS—													
Pennsylvania:													
50-52 450 (blending)	.0550	.05⅝	.05⅛	.0489	.05⅞	.04	.0466	.0512	.0462	.05⅝	.04⅜	.0448	.0476
NATURAL GASOLINES—													
Oklahoma (Group 3):													
26-70	.0310	.04	.02½	.0320	.04¼	.02	.0287	.0353	.0260	.03¾	.01¼	.0224	.0295
18-55	.0375	.04¾	.03	.0404	.05	.02¾	.0355	.0452	.0318	.04⅜	.01¾	.0275	.0361
California:													
75-85 375-390	.0533	.07	.04¾	.0506	.06½	.04½	.0551	.0462	.0575	.06½	.04½	.0515	.0635
KEROSENE—													
Oklahoma (Group 3):													
41-43 water white	.0394	.04½	.03¾	.0353	.03⅞	.03¼	.0374	.0331	.0322	.03⅝	.03	.0330	.0314
North Texas:													
41-43 water white	.0397	.04⅜	.03½	.0343	.03⅞	.03¼	.0360	.0325	.0310	.03½	.02⅞	.0313	.0307
Pennsylvania:													
45 water white	.0529	.05½	.04¾	.0467	.04⅞	.04¼	.0467	.0466	.0448	.05⅝	.04	.0451	.0445
California:													
38-40 high burning test	.0331	.04	.03¼	.0409	.04¾	.03¼	.0456	.0363	.0458	.04¾	.04¼	.0441	.0475
New York (Bayonne, N. J.):													
41-43 water white	.0502	.05¼	.04⅝	.0518	.05¼	.04⅝	.0549	.0487	.0529	.05¾	.05	.0540	.0518
Gulf Coast:													
41-43 water white	.0405	.04¼	.03⅞	.0433	.04¾	.04	.0440	.0425	.0440	.04¾	.04¼	.0449	.0449
FURNACE OILS AND TRACTOR FUELS—													
Oklahoma (Group 3):													
32-36, No. 2 straw	.0322	.03⅜	.02¾	.0283	.03⅛	.02⅝	.0283	.0282	.0268	.03⅛	.02⅜	.0268	.0267
38-40, No. 1 straw	.0342	.03⅝	.03⅛	.0308	.03¼	.02⅝	.0319	.0296	.0273	.03¼	.02½	.0277	.0268
38-42, No. 1 prime white	.0360	.03⅞	.03¼	.0324	.03⅝	.03	.0334	.0312	.0292	.03⅜	.02½	.0289	.0294
New York (Bayonne, N. J.):													
No. 1	.0503	.05¼	.04⅝	.0513	.06	.04⅝	.0540	.0486	.0527	.05½	.05	.0536	.0517
No. 4	.0418	.04½	.03¾	.0397	.04¾	.03½	.0428	.0366	.0436	.04¾	.04	.0417	.0454
GAS OIL, DIESEL OIL AND FUEL OIL—													
Oklahoma (Group 3):													
U.G.I. gas oil	.0241	.02⅝	.02⅛	.0233	.02⅝	.02	.0230	.0235	.0201	.02⅜	.01¼	.0214	.0187
Below 18 fuel oil, industrial	.6288	.70	.60	.6232	.65	.60	.6130	.6333	.5930	.62½	.50	.5750	.6100
California:													
24* plus diesel	1.07	1.10	1.00	1.084	1.150	1.050	1.110	1.057	1.032	1.10	.90	1.00	1.063
Gulf Coast:													
28-30 diesel	1.59	1.70	1.50	1.700	1.700	1.700	1.700	1.700	1.779	1.80	1.70	1.80	1.758
New York (Bayonne, N. J.):													
28-30 diesel (lighterage 6¼ cents bbl.)	1.65	1.65	1.65	1.761	1.89	1.65	1.872	1.650	1.939	1.95	1.89	1.948	1.922
Bunker C (New York harbor)	1.05	1.05	1.05	1.067	1.15	.95	1.150	.983	1.242	1.30	1.15	1.258	1.225
NEUTRAL OILS—													
Oklahoma (Group 3):													
200, 3 color, 15-20 cold test	.1075	.10¾	.10¾	.1075	.10¾	.10¾	.1075	.1075	.0994	.10¾	.08	.0912	.1075
Pennsylvania:													
200, 3 color, 10 pour test	.2269	.24½	.21½	.2579	.30	.22½	.2754	.2404	.291	.30½	.26	.290	.291
Gulf Coast:													
200, 3 pale oil	.0694	.06½	.07	.0722	.07¼	.07	.0743	.0700	.0742	.07¾	.06¼	.0740	.0743
200, 5-6 red oil	.0694	.06½	.07	.0700	.07	.07	.0700	.0700	.0665	.07¼	.06½	.0640	.0689
California:													
200, 2½-3 pale	.0667	.07¼	.06¼	.0910	.12½	.07¼	.1077	.0743	.1954	.23	.12½	.2300	.1608
BRIGHT AND STEAM REFINED STOCKS—													
Oklahoma (Group 3):													
150-160, zero to 10, D color	.1756	.18½	.17	.1496	.17	.13½	.1400	.1592	.2030	.24½	.13½	.2370	.1679
631 green (treated), S.R.	.1179	.13½	.09½	.0872	.09½	.07½	.7904	.9500	.1317	.15	.08½	.1446	.1189
Pennsylvania:													
600 S.R.	.1157	.13½	.09½	.0891	.10½	.07½	.0824	.0957	.1476	.19½	.08½	.1829	.1123
Bright stock, 10 pour test	.2298	.24½	.22	.1990	.22	.17½	.1883	.2096	.2540	.30	.19½	.2900	.2179
WAX—													
Oklahoma (Group 3):													
124-126 (crude scale)	.0245	.02¾	.02⅜	.0224	.03⅛	.02	.0236	.0212	.0346	.03¾	.03⅛	.0365	.0322
New York (Bayonne, N. J.):													
125-127 (a.m.p.)	.0455	.0455	.0453	.0428	.040	.045	.0426	.0430	.0424	.046	.042	.0428	.0420
EXPORT PRICES—													
Gasoline—Gulf Coast:													
U. S. Motor	.0531	.05½	.05	.0473	.05⅜	.04⅜	.0450	.0495	.0433	.05¼	.03¾	.0455	.0410
64-66 375	.0567	.05¾	.05⅝	.0510	.05⅞	.04¾	.0493	.0526	.0475	.05¾	.04¼	.0498	.0452
Los Angeles, Calif:													
U. S. Motor, 53-55 gr., no octant rating	.0429	.04½	.04	.0400	.04	.04	.0400	.0400	.0405	.04½	.04	.0410	.0400
U. S. Motor, 65 octane	.0454	.04¾	.04¼	.0430	.04½	.04¼	.0434	.0425	.0455	.05	.04½	.0460	.0450
Lubricants—New York (f.a.s. in bbls.):													
600 S.R. unfiltered	.1813	.20	.16½	.1556	.14	.16½	.1462	.1650	.2153	.26	.14	.2521	.1785
Bright stock, No. 8 color	.2633	.28	.26	.2355	.26	.21	.2223	.2487	.3019	.36	.22	.3410	.2627

*1935 and 1934 prices are those on 27 plus diesel.

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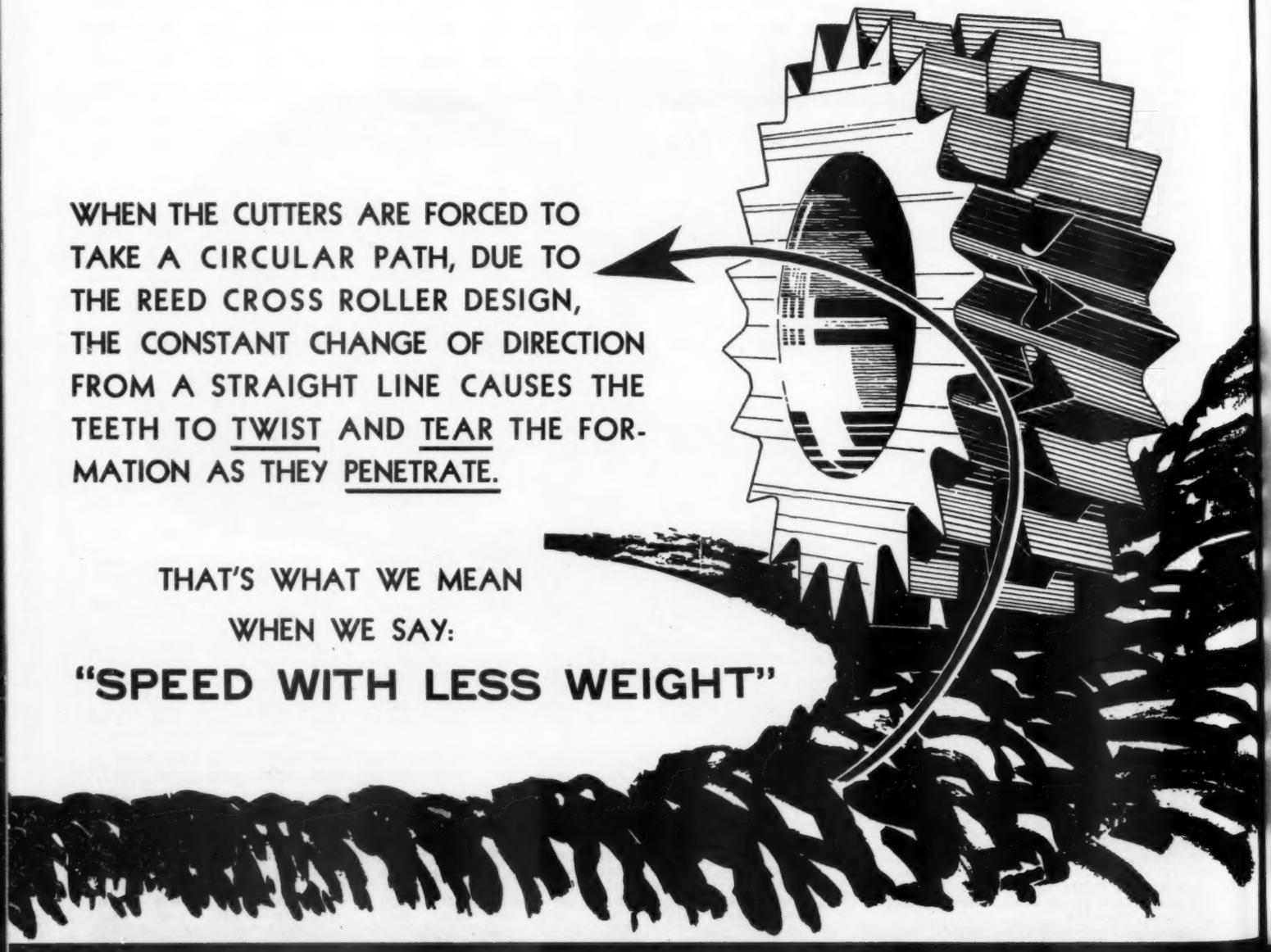

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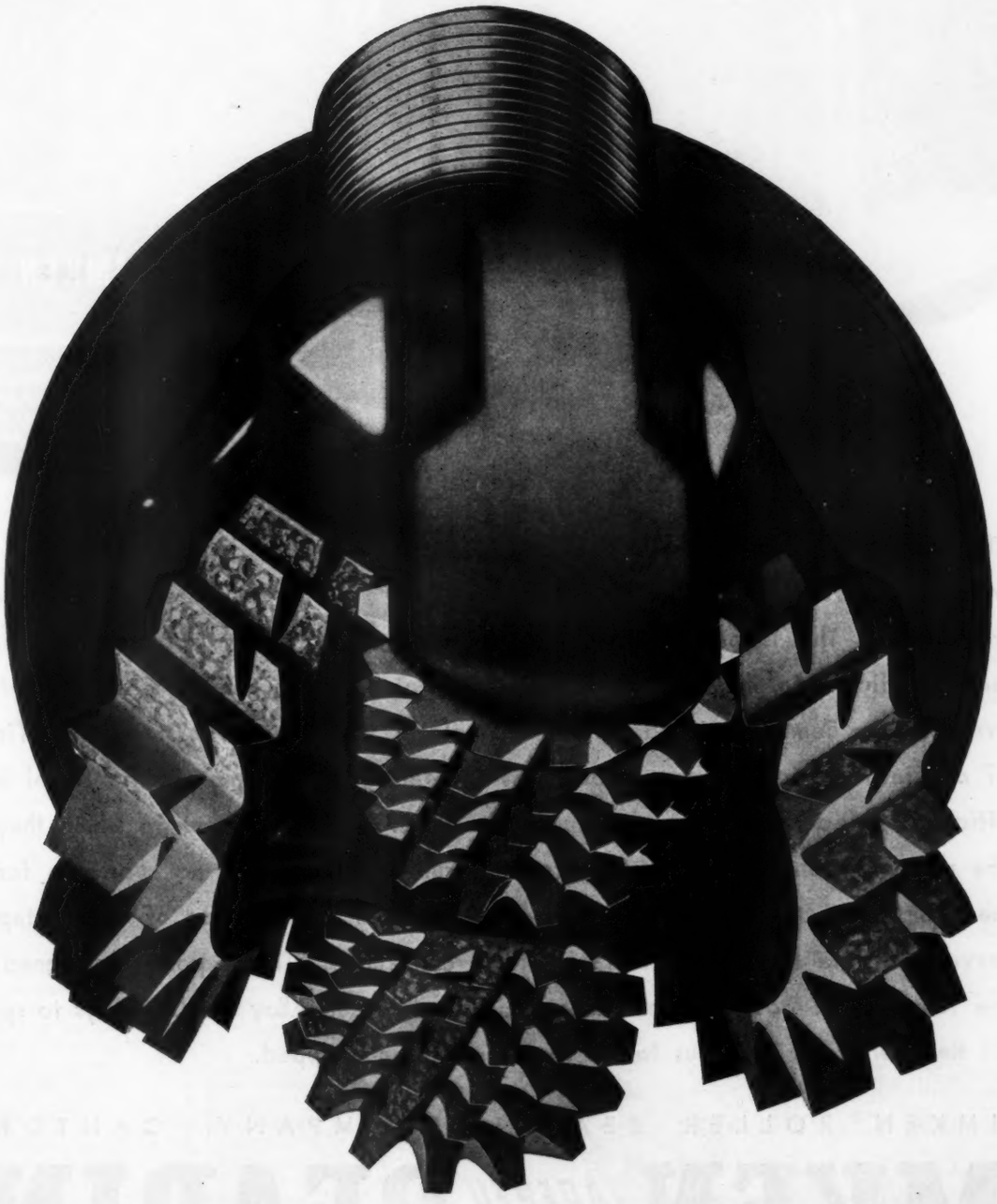

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THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN TAPERED ROLLER BEARINGS

Semi-Annual Review

TWO TRINITY SAND POOLS OPENED IN EASTERN COUNTIES OF TEXAS

By L. E. BREDBERG

The two most important features in the East Texas district during the first six months of 1935 were the findings of the Talco and Sulphur Bluff pools in Titus and Hopkins, two of the northern tier of East Texas counties. The former pool was uncovered early in February, but the discovery well was deepened in June to increase its production. The Sulphur Bluff pool discovery is yet incomplete, but the latter part of June it cored sufficient saturated sand, reported from 21 to 35 feet of Paluxy, to insure its making a producer and the second Paluxy sand pool opener in the district.

The Talco discovery of Peveto, Housh, Thompson and others' test on the C. M. Carr lands, in the M. V. Delgado Survey, about 2 miles due east of the small town of Talco in the extreme northwest corner of Titus County, was the first to open Paluxy sand production in the district, one other Trinity sand producer, located in the Cayuga field in northwest Anderson County, had previously been completed in the Glen Rose, lower member of the Trinity, but the Paluxy is the upper member of the Trinity series.

The Talco discovery immediately started a fault-line leasing campaign along the northern portion of the Balcones Fault plane, from Bowie County on the northeast to as far south as the Powell field in Navarro County. Major companies did much heavy buying, taking advantage of the geological information they had on file on structures located along the fault, and the location of the fault itself. Humble Oil & Refining Co. was the heaviest purchaser in the Talco field, holding the bulk of the acreage for about 6 miles from east to west through the Talco pool, although several other major companies hold acreage within this area, and independents obtained leases on smaller tracts, especially the town-lot tracts in Talco, on which rapid drilling is now taking place.

On March 18 the Talco discovery was completed as a pumping well, making 552 bbls. the first 24 hours at total depth of 4,208 feet. After a couple of offset producers were drilled deeper into the Paluxy, and consequently made better producers than the discovery well, it was deepened and recompleted in June at a total depth of 4,260 feet, pumping and flowing 725 bbls. in 24 hours.

LOW-GRAVITY OIL

The gravity of the Talco crude is only 24.5 degrees and contains from 2.89 to 3.31 per cent sulfur, with some asphalt in the oil, although it has a paraffin base. The low gravity detracts from the value of the oil, much of which is being sold for fuel for drilling other tests in the pool. There are three loading racks with gathering systems connected to leases and oil is being shipped out in tank-car from these. A survey is being made by Humble Pipe Line Co. for an 8-inch outlet to connect with its Van-East Texas-Louisiana main line at its Longview pumping station.

Elevation of the Talco discovery is 370 feet and the Woodbine was logged at 3,436 feet, with top of the Paluxy reported at 4,190 feet.

The next well drilled in the field, W. C. Windsor and Humble Oil & Refining Co. No. 1 Hughes and King, located in the Orlando James Survey, 2½ miles southwest of the discovery well, made a better well than the discovery and extended the field that distance, and over into Franklin County. Humble Oil & Refining Co. later extended the field 2 miles to the east on its Mary Grove lease in the Ben Jones Survey, and the field has also been extended about 2 miles farther to the southwest, making it now about 8 miles long from east to southwest, with dry holes hedging production along the south, a dry hole about 1 mile to the west of the latest southwest extension and a dry hole defining the field about 6 miles east of Talco. So far the north line of production has not been defined although Humble No. 1 Mary Grove, in the Jones Survey, proved a dry hole at 4,492 feet. It was temporarily abandoned, but is expected to be carried down to the Glen Rose in search of still deeper production.

About 18 miles southwest of the Talco field, lying along the same fault, Dilworth Hager, W. P. Luse and Leon Russ opened another Paluxy sand pool in the latter part of June, the discovery standing incomplete at this writing although it is preparing to pump and is estimated good for from 300 to 500 bbls. from the saturated sand already cored. Some place the amount of sand at 21 feet whereas others say at least 35 feet of sand was drilled. Total depth is 4,500 feet. This will make the first producer in Hopkins County.

This discovery is located about 3 miles south of the small town of Sulphur Bluff and 23 miles northwest of the county seat, Sulphur Springs. Location of the discovery

EAST CENTRAL TEXAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BOGGY CREEK, CHEROKEE:							
Daily average	543	545	539	545	531	542	
Month	16,836	15,808	16,709	16,346	16,467	16,261	98,427
CURRIE, NAVARRO:							
Daily average	120	148	122	120	41	117	
Month	3,723	4,295	3,782	3,611	1,271	3,507	20,189
CAYUGA, ANDERSON:							
Daily average	4,186	5,183	5,310	5,513	6,060	6,047	
Month	129,769	150,309	164,610	165,396	187,852	181,414	979,350
MAGNOLIA FERRY, ANDERSON:							
Daily average	752	1,103	1,063	1,012	1,105	1,076	
Month	23,308	31,985	32,953	30,352	34,250	32,272	185,120
MEXIA, LIMESTONE:							
Daily average	2,157	2,123	2,149	2,179	2,156	2,070	
Month	66,867	61,559	66,619	65,373	66,844	62,106	389,368
POWELL, NAVARRO:							
Daily average	2,264	2,304	2,316	2,321	2,263	2,168	
Month	70,180	66,813	71,796	69,630	70,153	65,031	413,603
RICHLAND, NAVARRO:							
Daily average	33	31	34	33	19	22	
Month	1,025	898	1,054	987	592	690	5,246
RUSK, CHEROKEE:							
Daily average	253	219	211	138	175	177	
Month	7,840	6,354	6,541	4,144	5,425	5,316	35,620
VAN, VAN ZANDT:							
Daily average	32,477	34,755	35,360	36,128	36,567	34,856	
Month	1,006,774	1,007,899	1,096,160	1,083,833	1,133,569	1,045,559	6,373,794
WORTHAM, FREESTONE:							
Daily average	91	80	83	81	82	98	
Month	2,816	2,317	2,573	2,431	2,548	2,940	15,625
CAMP HILL, ANDERSON:							
Daily average	515	521	502	465	418	391	
Month	15,962	15,106	15,562	13,954	12,958	11,727	85,269
RODESSA, CASS:							
Daily average	1,098	686	1,078	1,819	2,496	4,510	
Month	34,038	19,898	33,423	54,569	77,367	135,300	354,595
TALCO-TITUS-FRANKLIN:							
Daily average	.....	.....	66	640	884	1,000	
Month	.....	.....	2,054	19,188	27,415	29,998	78,655
Daily average	44,488	47,698	48,833	50,994	52,797	53,071	49,642
Total first six months 1936	1,379,138	1,383,241	1,513,836	1,529,814	1,636,711	1,592,121	9,034,861
Total first six months 1935	1,598,825	1,439,129	1,597,656	1,463,460	1,480,095	1,444,800	9,023,965
Total first six months 1934	1,337,450	1,207,167	1,353,109	1,418,875	1,570,523	1,607,163	8,494,287
Total first six months 1933	1,510,082	1,651,962	1,833,473	1,768,931	1,824,829	1,749,086	10,338,363

EAST TEXAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
LATHROP:							
Daily average	172,244	177,719	175,236	178,627	175,202	172,772	
Month	5,339,564	5,153,851	5,432,316	5,358,810	5,431,262	5,183,160	31,898,963
KILGORE:							
Daily average	139,633	144,066	140,840	145,672	146,110	140,061	
Month	4,328,623	4,177,914	4,366,040	4,370,160	4,529,410	4,201,830	25,973,977
JOINER:							
Daily average	147,441	152,125	148,742	153,313	147,216	147,893	
Month	4,570,671	4,411,625	4,611,002	4,599,390	4,563,696	4,436,790	27,193,174
Daily average	459,318	473,910	464,818	477,612	468,528	460,726	467,397
Total first six months 1936	14,238,858	13,743,390	14,409,358	14,328,360	14,524,368	13,821,780	85,066,114
Total first six months 1935	13,809,501	14,696,914	14,242,361	14,516,680	14,406,320	14,680,112	86,351,888
Total first six months 1934	13,982,092	13,168,462	15,642,196	15,261,750	15,867,946	16,730,673	90,653,119
Total first six months 1933	10,459,555	10,641,574	17,355,872	10,916,260	31,322,545	22,908,640	103,604,436
Total first six months 1932	10,257,192	8,988,703	10,141,772	10,659,801	10,707,333	9,997,238	60,752,039
Total first six months 1931	110,515	701,739	2,900,925	7,479,756	9,658,710	10,680,539	31,532,184

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is in the northeast corner of the Alexander O. Wetmore Survey. Another test by the discovery operators is preparing to start on this same lease. Gravity of the oil appears to be about the same as that in the Talco field.

Lack of drilling water, bad roads and low gravity of the crude will tend to hold down drilling in this field. Talco is also suffering from a lack of drilling water, with the rainy season to cause a cessation of operations when roads become impassable in the area. The Gulf Oil Corp.'s Mid-Continent carrier to the Gulf Coast runs within 2 miles of the Sulphur Bluff discovery, and as the company has leases in the area which appear sure of producing, this company will probably tie into the pool with a connecting line when it obtains production from its own wells.

OTHER DEEP TESTS IN DISTRICT

Tide Water Oil Co. and Seaboard Oil Co., joint operators in the Long Lake and Cayuga fields in Anderson County, which drilled the district's first Trinity sand producer in the Cayuga field last year, are now drilling their second deep venture in the field, southwest of their first one. It is below 6,000 feet and is being closely watched for results.

Gulf Oil Corp., which discovered the Camp Hill pool in eastern Anderson County last year, and in which three pay sands have been uncovered already, the Carrizo, Sub-Clarksville and Woodbine, is drilling a Trinity sand test in the pool, which is exceptionally interesting. It is deepening an old hole which proved dry in the upper formations, and is expected to go to 8,000 feet unless commercial production is found above that depth. If this test and the above test in the Cayuga field prove producers in the Trinity, they will lend impetus to the drilling of other deep wells throughout the district.

RUSK POOL EXTENSION

T. J. Wood and associates, who a couple of years ago, uncovered the small Rusk pool in Cherokee County, extended that pool 2 miles to the southwest this year when they completed No. 1 J. E. and J. O. Huggins, in the Levi Jordan Survey. Woodbine was logged at 5,140-86 feet, total depth, the well flowing 116 bbls. net oil, making 60 per cent b.s. and salt water, through three-sixteenths inch tubing choke, making the fourth small producer for the field, and proving considerable more acreage to production.

DEEP TEST AT MEXIA

The Trinity sand test of C. F. Lytle on the J. L. Thompson lands, in the Pedro Varella Survey, west of Mexia in the old Mexia Fault line field, Limestone County, attracted considerable interest during the year when it logged oil and gas showings and made some high-gravity oil, but it is still not a producer after plugging back from total depth of 6,064 feet to 5,580 feet to shut off water. This is the third test for deep production in that immediate area, the other two efforts proving failures, although one of them made considerable oil before damaged casing caused the hole to be junked.

LONG LAKE EXTENSION

The Long Lake field in southwestern Anderson County was extended over into the third county, Freestone, during the year when Tide Water Oil Co. and Seaboard Oil Corp. No. 1 Jesse Lee Johnson, in the Wheeler Survey, Freestone County, made 40 bbls. per hour through a three-eighths inch choke at total depth of 5,308 feet. This extended the field 1½ miles to the west.

H. L. Hunt purchased 1,600 acres in 24 separate leases during the year, one gas and distillate well owned on the Robinson and Combs lease being involved in the deal with the Standard of Kansas. This was the largest deal consummated in the field during the year.

EAST TEXAS FIELD

There are now over 21,000 oil producers in the East Texas field, with bottom-hole pressures falling to 1,180.21 pounds, and over 1,400 wells in the field making various percentages of water. Many wells were put on the pump on the edges of the fields this year, especially in the extension areas where many wells were completed on the pump instead of flowing. Many extensions were added to the field during the year, especially along the east and northeast side, in some of the previously condemned areas, and these have added thousands of producing acres to the already huge field.

Number of wells completed in the entire East and East Central Texas district dwindled from 2,589 completed the fore part of 1935 to 1,481 wells during the same period of 1936. This was mainly due to drilling activities in the East Texas field slumping to about half their number in the same time this year. About 50 wells per week were completed the fore part of this year, whereas in 1935 there were around 100 wells per week completed. During the first part of this year there were 120 dry holes completed in the district as against 127 in the same time last year.

The per well allowable of the field was cut from 2.8 per cent of the hourly per well potential the fore part of January to 2.32 per cent the latter part of June, which kept the daily allowable down to around 440,000 bbls. per day.

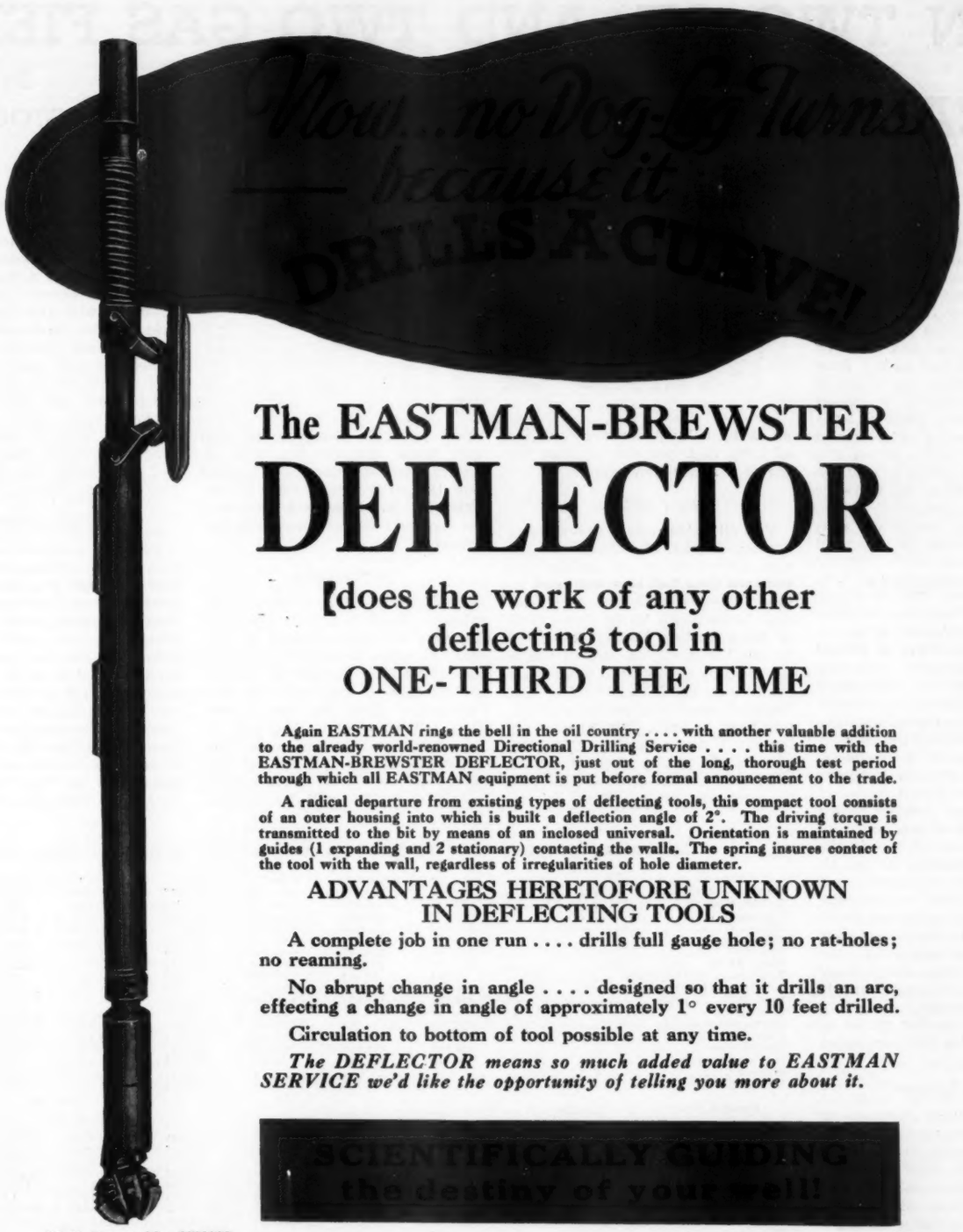
EAST CENTRAL AND EAST TEXAS

Summary of Operations First Six Months 1936

County—	Comp.	Prod.	Dry	Gas
Anderson	35	3,358	0	4
Angelina	5	0	5	0
Bowie	1	0	1	0
Cherokee	20	657	6	0
Ellis	1	0	1	0
Fannin	1	0	1	0
Franklin	3	996	0	0
Freestone	6	255	4	0
Gregg	552	18,158	16	0
Henderson	3	662	2	1
Hill	1	0	1	0
Hunt	1	0	1	0
Kaufman	2	0	2	0
Lamar	5	0	5	0
Limestone	3	5	1	0
McLennan	1	0	1	0
Morris	4	0	4	0
Nacogdoches	3	0	3	0
Navarro	14	82	8	0
Rains	1	0	1	0
Red River	3	0	3	0
Rusk	471	21,862	12	1
Smith	122	4,552	12	0
Titus	10	2,280	3	0
Upshur	189	6,118	18	0
Van Zandt	18	1,386	4	0
Wood	1	0	1	0
Total	1,482	60,371	117	6

Completions by Months

	Comp.	Prod.	Dry	Gas
January	230	7,915	18	2
February	208	7,333	11	1
March	241	8,394	18	1
April	322	18,435	23	0
May	236	8,748	24	1
June	245	9,546	23	1
Total six months	1,482	60,371	117	6
Same period 1935	2,589	135,653	127	9
Difference	1,107	75,282	10	3



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A radical departure from existing types of deflecting tools, this compact tool consists of an outer housing into which is built a deflection angle of 2°. The driving torque is transmitted to the bit by means of an inclosed universal. Orientation is maintained by guides (1 expanding and 2 stationary) contacting the walls. The spring insures contact of the tool with the wall, regardless of irregularities of hole diameter.

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A complete job in one run .... drills full gauge hole; no rat-holes; no reaming.

No abrupt change in angle .... designed so that it drills an arc, effecting a change in angle of approximately 1° every 10 feet drilled.

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Semi-Annual Review

OPEN TWO OIL AND TWO GAS FIELDS IN CALIFORNIA; PRICES RISE

By L. P. STOCKMAN

Discovery of two oil fields, the finding of a like number of potentially productive gas fields and the starting of work on two major pipe lines featured developments in California during the first half of 1936. Marketing conditions were in a rather unsatisfactory condition during the early part of the year and crude oil prices were threatened with a drastic reduction because production of crude oil was in excess of market demand. This was followed by a more tranquil period of decreased production and improved prices. The inability of major buyers to continue purchasing crude oil at the excessive rate of production registered in January, due to their insufficient storage facilities resulted in a general survey of conditions late in January and the committee consisting of A. C. Rubel, L. L. Aubert, Warner Clark, Bruce Barkis and Dana Hogan recommended the establishment of an allowable daily production of 537,000 bbls. for the entire year. This estimate contemplated a withdrawal from stocks during the period of peak consumption and a normal increase during the remainder of the year.

Upon the attainment of this quota, the Standard Oil Co., on February 26, advanced the posted price of crude oil in all but 9 fields, which had failed to reduce production to the prescribed allowable, but at the close of June, operators in the Alamitos Heights, Dominguez and Lakeview section of the Midway-Sunset field were alone in failure to reduce production to their respective allowables and, consequently, the posted price for crude oil in those districts remained unchanged and is therefore substantially lower than the price paid for similar grades of crude in other fields that conformed with curtailment.

STEVENS COUNTY

The most important discovery of the half year was in the Stevens district of Kern County, where Shell Oil Co. on June 2, 1936, completed No. 1 K.C.L. in section 29-30-26 flowing 650 bbls. of clean 61.3 gravity oil and 13,500,000 feet of natural gas per day from 7,888 feet. The Shell's discovery well, on property leased from Kern County Land Co., is in the center of a block of 4,200 acres, and the Stevens field is the first oil field to be discovered in California as a result of geophysical exploration. Several gas fields have been uncovered by the reflection method of seismographic exploration and now that this has proven successful in the Stevens area it is logical to assume that geophysical work will become more pronounced in California. Shell's discovery well showed a consistent increase following completion and could easily have yielded an initial daily production in excess of 1,000 bbls. per day through the use of a larger flow nipple.

CALIFORNIA FIELD OPERATIONS, BY MONTHS, FOR FIRST HALF YEAR 1936

	Wells completed		Wells		Abandoned		New
1936—	No.	Bbls. dly.	Drlg.	Prod'ng	Drlrs.	Prodrs.	rigs
January	71	34,687	204	12,766	31	8	87
February	43	13,561	208	13,691	34	35	73
March	63	32,726	232	12,214	27	2	84
April	65	27,338	215	12,041	24	39	90
May	64	39,721	250	11,913	36	20	87
June	86	36,508	231	11,922	19	9	120
Total first half 1936	392	183,541	...	.....	171	113	541
Total first half 1935	365	380,105	...	.....	158	90	540
Total first half 1934	183	254,210	...	.....	80	94	279
Total first half 1933	86	77,978	...	.....	62	130	129
Total first half 1932	95	63,235	...	.....	114	84	112

NEW FIELDS

Two oil fields were discovered and another district, discovered in 1934, was proven to be of greater importance than had been indicated by early prospecting work. The later area is the Santa Maria Valley field of Santa Barbara County discovered by the Union Oil Co. and in which the company had finished three small pumpers up to the end of 1935. The Union climaxed this patient exploratory work in April, 1936, by completing No. 1 Adam flowing 3,750 bbls. of clean 15.4 gravity oil per day from 2,765 feet. At the close of June, the company was drilling ahead in another potential producer and this well would indicate just how extensive is this structure. No. 1 Adam was the fifth test drilled by the Union Oil Co. in the field but it was the first that showed substantial production.

JAVON FIELD

Continental Oil Co. proved the existence of an oil field in the Javon discovery of Ventura County on February 20, when No. 1 Hobson in section 15-3-24 was completed, flowing at the rate of 500 bbls. per day. Continental killed the flow a few days following completion, but returned it to production again February 27, flowing 478 bbls. of 30.3 gravity oil and 290,000 feet of natural gas per day. This well, bottomed at 5,501 feet, was finished with 6⅝-inch casing landed at 5,415 feet and cemented through perforations at 5,230 feet. The 6⅝-inch casing was perforated with a Lane-Wells gun perforator between 5,240 feet and 5,300 feet with 119 shots on a 6-inch center. The Continental's discovery well has been flowing steadily since completion and those familiar with this district are of the opinion that the company has discovered a field of importance. Only one new well has been started since this test, Chanslor Canfield Midway Oil Co.'s No. 4-A Hobson, had not been completed up to the close of June.

TWO NEW GAS FIELDS

Two new gas fields were definitely proved up as productive during the half year and two other potentially productive as fields are undergoing the probationary period necessary before being given definite classification. The two new gas fields have been designated as the Buena Vista Lake gas field of Kern County and the Chowchilla gas field of Madera County, although technically the Buena Vista Lake gas field was discovered in July, 1934, and the first well finished in the Chowchilla gas field on April 2, 1935. The two potentially

CALIFORNIA PRODUCTION OF CRUDE OIL BY DISTRICTS, JANUARY TO JUNE, INCLUSIVE, 1936

	January	February	March	April	May	June	Total
Northern fields—							
Belridge-North	296,917	244,570	249,538	250,217	267,877	265,769	1,574,888
Belridge-South	71,436	61,298	66,300	63,743	66,294	61,916	390,987
Coalinga	661,112	528,066	572,036	502,758	503,716	492,337	3,260,025
Edison	172,380	149,445	143,805	146,915	166,608	178,168	957,321
Elk Hills	300,952	256,748	265,433	291,840	294,884	254,196	1,664,053
Fruitvale	231,565	198,773	202,209	216,274	231,055	227,272	1,307,148
Kern River	510,156	417,745	418,370	417,655	424,875	401,236	2,590,037
Kettleman Middle dome	12,883	12,463	15,429	14,542	14,136	12,192	81,645
Kettleman North dome	3,000,166	2,316,362	2,383,517	2,339,886	2,421,181	2,332,938	14,794,049
Lost Hills	144,691	118,335	112,100	101,092	105,562	101,796	683,576
McKittrick	130,024	105,158	56,293	50,310	51,990	53,881	447,656
Midway-Sunset	1,924,961	1,554,364	1,643,383	1,671,760	1,803,950	1,815,936	10,414,354
Mountain View	1,116,571	919,215	854,400	796,704	868,116	838,357	5,393,363
Mount Poso	698,649	546,303	565,039	586,551	588,540	517,603	3,502,685
Round Mountain	316,495	262,774	284,040	291,476	327,576	318,538	1,800,899
Stevens	.....	.....	.....	.....	.....	23,241	23,241
Wheeler Ridge	12,683	10,388	11,353	10,686	10,809	10,500	66,419
Coastal fields—							
Capitan	57,328	46,324	43,489	42,353	44,153	42,854	270,501
Elwood	499,377	368,312	367,207	374,848	399,475	366,856	2,376,075
Rincon	64,182	53,933	52,355	60,457	67,154	62,135	360,216
San Miguelito	51,149	29,903	42,227	42,439	45,095	41,737	252,550
Santa Barbara	67,257	48,762	54,125	50,667	49,558	46,400	316,769
Santa Maria	124,830	103,394	119,972	121,888	125,122	133,917	729,123
Summerland	1,115	873	1,319	1,119	1,117	1,097	6,640
Ventura Avenue	1,256,131	985,453	1,038,308	1,015,818	1,049,689	1,009,072	6,354,471
Ventura-Newhall	132,782	117,781	131,829	133,002	140,502	141,471	797,367
Watsonville	1,860	1,740	1,860	1,800	1,860	1,800	10,920
Southern fields—							
Brea Olinda	309,504	217,642	232,873	239,841	248,189	239,106	1,487,155
Coyote-East	85,904	67,194	71,345	65,937	70,925	68,569	429,874
Coyote-West	323,195	229,682	251,702	244,157	252,885	248,340	1,559,961
Dominguez	948,920	895,774	832,163	794,473	801,961	779,478	5,052,769
El Segundo	.....	.....	.....	4,456	10,058	11,817	26,331
Huntington Beach	1,278,419	1,076,760	1,107,900	1,071,482	1,099,416	1,085,198	6,719,175
Inglewood	478,431	354,206	368,541	349,120	367,871	363,055	2,281,224
Lawndale	8,384	7,285	8,372	1,821	2,850	2,907	31,619
Long Beach	2,412,968	2,068,317	2,167,124	2,072,914	2,096,479	2,040,760	12,858,562
Los Angeles-Salt Lake	23,147	23,057	26,474	24,407	25,715	25,158	147,958
Montebello	247,270	201,583	245,459	226,882	250,714	295,116	1,467,023
Playa Del Rey	501,080	396,874	398,129	407,655	424,178	408,392	2,536,308
Potrero	10,293	9,954	9,215	10,162	9,862	10,164	59,650
Richfield	255,375	186,914	195,483	194,252	191,754	184,813	1,208,591
Rosecrans	84,843	60,129	69,047	61,642	62,160	61,162	398,983
Santa Fe Springs	1,665,950	1,282,781	1,332,476	1,293,138	1,358,216	1,321,969	8,254,530
Seal Beach	346,809	274,588	290,903	292,418	291,757	276,474	1,772,949
Torrance	212,774	192,295	207,549	199,168	210,875	239,755	1,262,416
Whittier	32,089	27,913	30,323	29,395	29,179	29,814	178,713
Total production	21,083,006	17,035,430	17,541,014	17,180,120	17,875,938	17,445,261	108,160,769
Daily average	680,097	587,428	565,839	572,671	576,643	581,509	594,290

productive gas fields undergoing probation are the McDonald Island gas field located in San Joaquin County and the Rio Vista gas field situated in Solano County. The discovery well in the McDonald Island gas field was Standard Oil Co.'s No. 1 in section 24-2-4 and, while it showed sustained production on a preliminary production test and gave evidence of the presence of a substantial accumulation of gas, its importance has not been conclusively determined. The Standard's No. 1 McDonald Island was brought in flowing 26,640,000 feet of gas per day on June 2, from a total depth of 5,227 feet. This well is producing simultaneously from two gas zones and it is therefore quite possible that subsequent development may prove up each of these zones as commercially productive. Late in June, the Standard started rig construction for a second test to be drilled in the McDonald Island gas field on the Weyl-Zukerman property in section 24-2-4.

The Amerada Petroleum Corp. appears to have discovered a new gas field in the Rio Vista district of Solano County, although this will not be definitely known until additional drilling has been undertaken. The discovery well was No. 1 Emigh, in section 26-4-2, which produced 8,750,000 feet of gas per day from 4,485 feet on June 19, 1936. The Texas Co.'s second wildcat in section 22-3-11 in the Eureka district of Humbolt County in northwestern California blew out late in June from 4,428 feet and showed such high pressure that considerable difficulty was experienced in bringing it under control. It is believed that Texas Co. has found a gas zone that may have commercial possibilities and consequently work during the next several weeks will be watched with considerable interest. The Seaboard Oil Co., discoverer of the Kettleman North dome field and the Buttonwillow gas field, has leased approximately 5,000 acres in Alameda County about 12 miles southwest of the Tracy gas field and will drill its first test 330 feet N and 160 feet E from the W quarter cor. of section 13-3-3. This district has considerable merit and it would, therefore, not be surprising if Seaboard discovered a new gas field at this point.

INCREASED DRILLING

Drilling operations during the first six months were on about a par with similar work done in the like period last year. This is very encouraging, however, as 1935 was by far the best year from a drilling standpoint since 1930. It is significant to note that the aggregate initial daily production of new wells in 1936 is substantially below corresponding figures for the past two years. This can be attributed to two factors, the most important of which is that there are no major fields in the ascendancy that are showing large initials. Many operators have ceased building up large potentials and the initial production of new wells does not represent maximum production. Since the curtailment program became effective in January, 1936, the number of oil wells producing has shown a declining tendency, indicating that several hundred wells have been completely shut in since the first of the year. During January, 1936, there were 12,766 wells producing oil and gas but the total dropped below the 12,000 mark for the first time this year in May, when there were only 11,913 wells on production.

The Kettleman North dome field showed the largest amount of sustained drilling during the year to date, followed by Ventura-Newhall, Mountain View and Montebello. Development work in the Mountain View field showed a declining tendency during May and June and will probably show a further decline during the rest of the year. There was very little change in the eastern extension of the Montebello field although the productive limits were extended with the completion of several good wells. The extension failed to come up to general expectations and the unconformity in subsurface conditions which was evidenced during its early life has become even more pronounced. Eastern Oil Co. is working on a well that has all the earmarks of an important discovery a little over a mile east of the Playa Del Rey field of Los Angeles Basin.

One new well was completed in the El Segundo field of Los Angeles Basin but the initial daily production was relatively small and did not change the status of the field, which still appears to be of secondary importance. In the Terminal Island section of the Wilmington district, General Petroleum has found two heavy oil zones that might ultimately be found commercially productive. This wildcat, immediately adjacent to tidewater, tested one zone at 2,694 feet and it came in flowing 90 bbls. of heavy unrefinable oil testing 13.2 degrees A.P.I. A second zone, found at 3,019 feet, was good for 200 bbls. of 18.2 gravity oil per day under a natural flow. The 9-inch water string was landed and cemented at 2,430 feet and no additional pipe was landed before testing the second zone although a 4¾-inch liner was used. After testing these two zones, the company resumed drilling operations in the hope of finding a lighter grade of crude oil with added depth. Up in the San Joaquin Valley, Associated Oil Co. completed No. 2 Williamson in the Lost Hills field and this outpost, located about 2 miles northwest of present production, was brought in pumping 50 bbls. of 13.7 gravity oil per day from 1,143 feet.

PRODUCTION CURTAILED

Crude oil production in California, for the second consecutive six months period, exceeded the 100,000,000 bbl. mark and would have reached a much higher figure if it were not for the adoption of a new curtailment program, effective February 10. Operators reduced production approximately 100,000 bbls. per day and received an increase in price. During January, 1936, California operators produced 21,083,006 bbls. of oil or an average of 680,097 bbls. per day. This is the highest monthly production recorded in California since February, 1930, when it averaged 745,916 bbls. per day.

Western Oil & Refining Co. passed out of the picture this year when Federal Judge McCormick ordered the receivership of that bankrupt concern closed. Signal Oil Co. with a bid of $176,000 purchased the wells and properties of Western Oil & Refining Co. in the Long Beach field. The properties comprise 10 producing wells on 5 separate town lot leases which are currently producing 800 bbls. of oil per day. All production is subject to excessive royalties which in some cases approximate 50 per cent. The projected consolidation of Richfield, Pan American and Rio Grande Oil Co. had not been completed up to the close of June.

Valley Pipe Line Co., owned jointly by Seaboard Oil Co., and the Texas Co., has started actual construction work on its new 10-inch welded pipe line from Kettleman Hills to Estero and the entire 70 miles of line is scheduled for completion early in August. At the close of June approximately 25 miles had been welded and laid. Shell Oil Co. awarded the construction contract for its new 304-mile pipe line from Bakersfield to Martinez late in June and actual work was expected to get under way in July as the pipe contracts had been previously awarded.

CALIFORNIA FIELD OPERATIONS, BY DISTRICTS, FOR FIRST HALF 1936

	Wells completed		Oil and gas wells*				
					Abandoned		New
Northern—	No.	Bbls. dly.	Drlg.	Prod'ng	Drlrs.	Prodrs.	rigs
Belridge-North	2	8,458	6	30	...	...	3
Belridge-South	...	.....	...	181	...	...	...
Buena Vista Lake Gas	2	Gas	...	.....	...	...	1
Buttonwillow Gas	...	.....	...	9	...	...	...
Coalinga	1	20	5	937	6	24	7
Chowchilla Gas	1	Gas	...	.....	...	...	1
Delano Gas	2	Gas	...	.....	...	...	1
Dudley Ridge Gas	...	.....	1	1	1	...	...
Edison	25	3,790	7	89	11	1	27
Elk Hills	...	.....	...	163	...	...	...
Fruitvale	15	2,803	7	90	5	1	34
Kern River	36	6,513	8	1,412	7	1	45
Kettleman Middle dome	1	1,350	1	3	2	...	1
Kettleman North dome	29	45,926	28	120	1	1	26
Lost Hills	1	45	1	284	5	2	1
McKittrick	2	256	3	149	1	1	10
Midway-Sunset	36	12,606	11	2,371	5	8	58
Mountain View	38	25,430	12	139	3	4	27
Mount Poso	10	3,594	7	199	15	1	23
Round Mountain	34	13,871	5	81	1	...	48
Semi-Tropic Gas	...	.....	...	.....	1	...	...
Stevens	1	820	...	.....	...	...	1
Tracy Gas	4	Gas	...	2	1	...	3
Wheeler Ridge	...	.....	...	30	...	1	1
Total	247	125,582	102	6,270	65	45	318
Coastal—							
Capitan	6	1,029	2	21	1	...	10
Elwood	3	3,208	1	66	1	...	1
Goleta Gas	...	.....	...	.....	...	...	...
Rincon	1	95	...	30	3	1	...
San Miguelito	1	478	1	6	...	...	2
Santa Barbara	2	305	1	61	1	6	2
Santa Maria	2	2,485	3	193	1	2	13
Summerland	...	.....	...	19	...	...	...
Ventura Avenue	9	4,498	6	228	...	...	8
Ventura-Newhall	6	613	15	551	5	...	15
Watsonville	...	.....	...	7	...	...	...
Total	30	12,711	29	1,183	12	9	51
Southern—							
Brea Olinda	...	.....	...	354	2	3	1
Coyote-East	...	.....	...	77	...	...	2
Coyote-West	3	2,185	1	51	...	...	...
Dominguez	14	10,789	5	113	...	...	13
El Segundo	1	400	1	1	...	...	1
Huntington Beach	10	803	3	510	3	6	6
Inglewood	7	9,662	2	214	1	...	8
Lawndale	...	.....	1	7	2	...	1
Long Beach	17	2,171	7	1,250	17	17	7
Los Angeles-Salt Lake	...	.....	...	125	...	2	...
Montebello	11	8,363	11	190	3	...	16
Newport	...	.....	1	.....	...	...	...
Playa Del Rey	8	1,979	3	208	8	5	10
Potrero	...	.....	...	11	...	2	...
Richfield	3	355	2	249	1	5	4
Rosecrans	...	.....	1	74	...	...	1
Santa Fe Springs	15	2,919	5	611	1	12	10
Seal Beach	2	1,422	2	114	...	1	1
Torrance	20	4,200	7	485	...	5	33
Whittier	...	.....	...	162	2	1	...
Miscellaneous	...	.....	40	.....	54	...	58
Total	111	45,248	92	4,806	94	59	172
Total state	382	183,541	223	12,258	171	113	541

*Monthly average.

PRODUCTION OF CRUDE BY MONTHS—CALIFORNIA OIL DISTRICTS

(Barrels of 42 U. S. gallons)

	1936		1935	
Month—	Total barrels	Daily average	Total barrels	Daily average
January	21,083,006	680,097	15,511,311	500,365
February	17,035,430	587,428	13,959,063	498,538
March	17,541,014	565,839	15,431,203	497,781
April	17,180,120	572,671	14,174,149	472,471
May	17,875,938	576,643	15,342,221	494,910
June	17,445,261	581,509	16,708,859	556,962
Total first half	108,160,769	594,290	91,126,806	503,463

TOTAL FLUID STOCKS OF PETROLEUM HELD IN PACIFIC COAST TERRITORY

(Barrels)

1935—	Heavy crude and fuel	Refinable crude	Gasoline	Naphtha distillates	All other stocks	Total all stocks
June 30	63,566,659	33,284,045	11,951,756	1,290,566	8,448,953	118,541,979
July 31	65,011,387	32,499,639	11,045,762	1,261,486	8,642,723	118,460,997
August 31	64,826,227	33,548,489	10,194,866	1,347,242	8,691,574	118,608,398
September 30	65,446,342	34,957,772	10,486,980	1,335,955	8,989,222	121,216,271
October 31	66,515,093	35,408,486	10,440,035	1,321,037	9,202,237	122,886,888
November 30	66,893,828	37,650,566	11,093,285	1,460,073	9,152,311	126,250,063
December 31	68,201,291	38,950,469	12,328,183	1,695,564	9,453,139	130,628,646
1936—						
January 31	70,055,178	40,642,706	13,331,242	1,916,722	9,297,868	135,243,716
February 29	71,004,770	40,283,260	14,552,868	1,748,720	9,232,177	136,821,795
March 31	71,074,147	39,683,463	14,447,379	1,577,324	9,656,271	136,438,584
April 30	71,065,525	39,470,817	14,286,558	1,534,084	9,493,275	135,850,259
May 31	71,571,022	38,734,077	15,023,146	1,689,495	9,500,622	136,518,362
June 30	71,978,146	38,142,786	14,434,355	1,963,326	9,221,622	135,740,235

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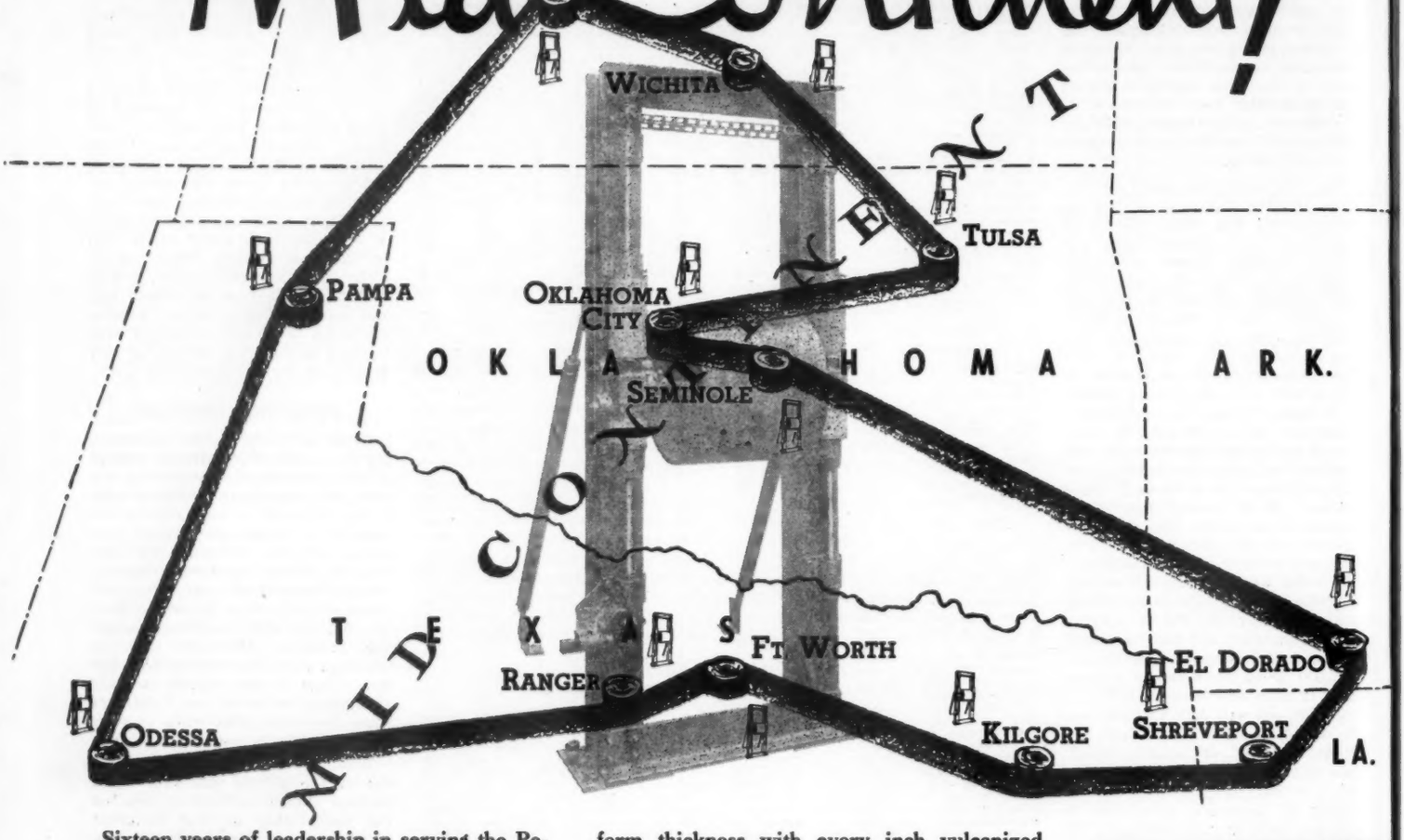

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Semi-Annual Review

TWENTY-FOUR OIL POOLS OPENED IN WESTERN KANSAS COUNTIES

By DAL DALRYMPLE

This has been a wildcatter's year in Kansas. In the first six months of 1936 wildcat wells opened new oil or gas pools in 29 areas in the state, with several other tests proving extensions of older pools. Of the 29 discoveries, 24 opened oil pools—an average of four new pools a month—and five opened new gas producing areas.

A total of 95 wildcats failed to find commercial production and were abandoned, but that is not a bad showing in view of the far-flung wildcat activity. Indeed, considering the fact that some of the discoveries opened what are destined to become major fields, it is an excellent showing. At the beginning of this year 83 wildcat tests were listed in 25 counties. Late in June that number had increased to 126 wildcats in 33 counties, and that number did not include several tests that were temporarily inactive and some others that were in the old stripper areas of southeastern Kansas that are not regularly covered by the scouts.

The increase in field work was not confined to wildcats, however. In early spring, as soon as the extreme cold of last winter gave way to warmer weather, an intensive drilling campaign set in the proven sectors, especially in Reno, Rice, Barton, Russell, Ellis, Ellsworth and McPherson Counties. There also was a revival of work in older areas in Butler, Greenwood, Woodson, Cowley and Sumner Counties, and even the stripper areas of Chautauqua, Elk, Wilson and Montgomery Counties experienced new activity.

As a result of this widespread activity the state potential reached a new all-time high. The official state potential was announced as 957,504 bbls. on February 1. By April that had increased to 977,864 bbls. daily; to 1,037,717 bbls. in May and 1,048,188 bbls. daily in June.

PRINCIPAL NEW POOLS

Of the new pools, the Lerado area in Reno County, the Bemis and Rudor sectors in Ellis County, the Geneseo and Hauschild districts of Rice County and the Bloomer area of Barton County were perhaps the more spectacular. However, the Burrton field of Reno County, the Silica and Chase pools of Rice County and the numerous Russell County producing areas continued active throughout the six months, with many producers being completed.

The new year was less than a week old when an oil strike of major importance was registered in the new area that had been opened in southwestern Reno County in October, 1935, and which later was to be named the Lerado field. On January 6 Shell Petroleum Corp. No. 1 Lee, CEL SE section 10-26-9w, second well in the pool, flowed 2,910 bbls. of oil naturally in 20 years and was hailed as the biggest Viola lime well completed west of the Granite Ridge in Kansas. It later flowed 5,646 bbls. after acidizing. The discovery well, Shell Petroleum Corp. No. 1 Reece, which originally produced 871 bbls. in 24 hours from 4,156 feet, was not officially completed until late in March, when it flowed 5,570 bbls. in 24 hours. The Shell company, which owns a huge block in the Lerado sector, has continued orderly development of the area and brought in several more big producers.

The new Hauschild pool in southern Rice County, opened in April at L. E. Douglas and others No. 1 Hauschild, NE NE NW section 15-21-7w, forged to the front rapidly in the last

KANSAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BARTON COUNTY:							
Beaver—							
Daily average	327	288	293	310	300	291	
Month	10,137	8,352	9,083	9,300	9,300	8,730	54,902
Ellinwood—							
Daily average	688	647	703	760	794	623	
Month	21,328	18,763	21,793	22,800	24,614	18,690	127,988
Isern—							
Daily average	541	466	513	530	466	417	
Month	16,771	13,514	15,903	15,900	14,446	12,510	89,044
Miscellaneous—							
Daily average	276	300	383	641	862	1,358	
Month	8,556	8,700	11,873	19,230	26,722	40,740	115,821
BARBER COUNTY:							
Daily average	77	48	54	43	27	41	
Month	2,387	1,392	1,674	1,290	837	1,230	8,810
ELLSWORTH COUNTY:							
Breford—							
Daily average	249	337	288	282	340	243	
Month	7,719	9,773	8,928	8,460	10,540	7,290	53,710
Heiken—							
Daily average	96	90	92	88	89	87	
Month	2,976	2,610	2,852	2,640	2,759	2,610	16,447
Lorraine—							
Daily average	7,142	8,224	7,981	7,986	7,169	6,573	
Month	221,402	238,496	247,411	239,580	222,239	197,190	1,366,318
Stoltenberg—							
Daily average	709	657	699	652	614	561	
Month	21,979	19,053	21,669	19,560	19,034	16,830	118,125
Stratman—							
Daily average	367	417	369	390	369	297	
Month	11,377	12,093	11,439	11,700	11,439	8,910	66,958
Miscellaneous—							
Daily average	155	97	123	124	101	89	
Month	4,805	2,813	3,813	3,720	3,131	2,670	20,952
HARVEY COUNTY:							
Hollow-Nikkel—							
Daily average	4,693	4,330	4,482	4,571	4,085	3,823	
Month	145,483	125,570	138,942	137,130	126,635	114,690	788,450
Miscellaneous—							
Daily average	87	101	115	119	212	168	
Month	2,697	2,929	3,565	3,570	6,572	5,040	24,373
KINGMAN COUNTY:							
Daily average	666	626	464	630	535	613	
Month	20,646	18,154	14,384	18,900	16,585	18,390	107,059
McPHERSON COUNTY:							
Graber—							
Daily average	314	287	361	494	761	532	
Month	9,734	8,323	11,191	14,820	23,591	15,960	83,619
Johnson and Chinberg—							
Daily average	1,090	1,003	1,060	1,094	1,052	903	
Month	33,790	29,087	32,860	32,820	32,612	27,090	187,959
McPherson—							
Daily average	580	489	465	501	483	483	
Month	17,980	14,181	14,415	15,030	14,942	14,490	91,038
Ritz-Canton—							
Daily average	7,317	6,406	6,954	6,785	6,561	6,157	
Month	226,827	185,774	215,574	203,550	203,391	184,710	1,219,826
Voshell—							
Daily average	3,382	3,264	3,281	3,272	3,148	2,828	
Month	104,842	94,656	101,711	98,160	97,588	84,840	581,797
Miscellaneous—							
Daily average	85	40	156	116	144	141	
Month	2,635	1,160	4,836	3,480	4,464	4,230	20,805
RENO COUNTY:							
Abbyville—							
Daily average	141	143	147	179	149	118	
Month	4,371	4,147	4,557	5,370	4,619	3,540	26,604
Burrton—							
Daily average	12,857	12,471	13,846	15,561	14,809	11,798	
Month	398,567	361,659	429,226	466,830	459,079	353,940	2,469,301
Hilger—							
Daily average	234	317	397	491	597	586	
Month	7,254	9,193	12,307	14,730	18,507	17,580	79,571
Lerado—							
Daily average	587	526	648	919	837	798	
Month	18,197	15,254	20,088	27,570	25,947	23,940	130,996
Miscellaneous—							
Daily average	110	123	110	162	199	168	
Month	3,410	3,567	3,410	4,860	6,169	5,040	26,746
RICE COUNTY:							
Gouldner—							
Daily average	253	223	287	313	424	383	
Month	7,843	6,467	8,897	9,360	13,144	11,490	57,201
Brandenstein—							
Daily average	132	131	128	134	122	113	
Month	4,092	3,509	3,968	4,020	3,782	3,390	22,761
Chase—							
Daily average	10,002	9,596	10,264	10,079	9,422	9,756	
Month	310,062	278,284	318,184	302,370	292,082	292,680	1,793,662

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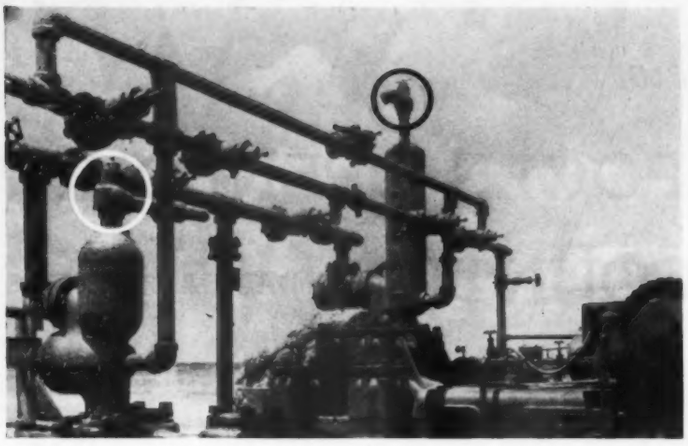

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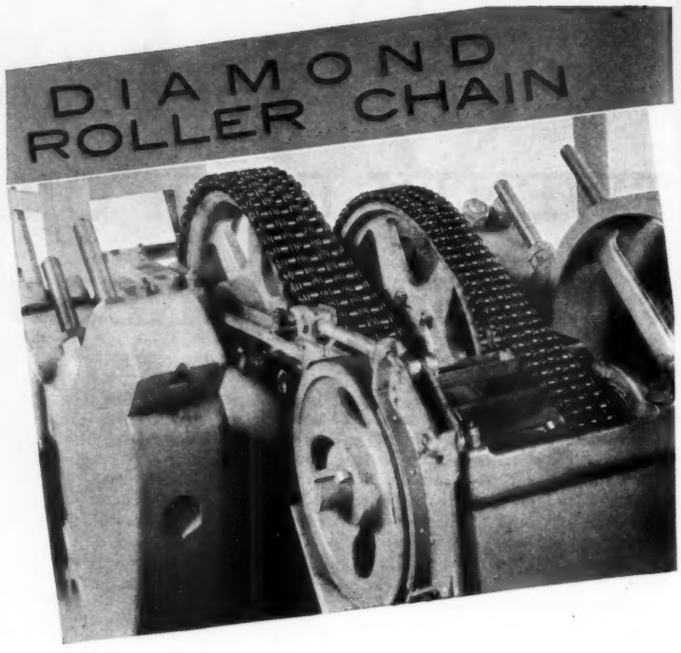

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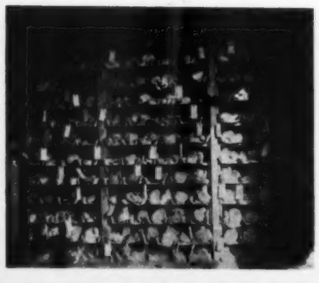

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Photo shows core house with excellent recoveries taken from wildcat well at Puente, California. They give a clear picture of formations as they exist in the hole.

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three months and now is considered one of the more important areas of the state. The discovery well made 24-hour potential of 1,280 bbls. from Chat at 3,363-69 feet, with around 5,000,000 feet of gas. In May, Darby Petroleum Corp. completed the second producer in the field for potential of 2,160 bbls. from Chat. About a week later E. J. Shaffer and others No. 1 Hauschild, the third well in the pool, definitely proved gusher production. When it was officially completed early in June it made potential of 10,040 bbls. from Chat at 3,370-79 feet.

The Geneseo district of northern Rice County became one of the "hot" spots in Kansas during the first half of the year, with the play extending over into southern Ellsworth County. Continental Oil Co., with much acreage in the area, George P. Dickey and H. K. Beardmore and associates started tests in Township 18-7w, on a big structure, late in March and early in April, and several good producers have since been completed in the district.

ELLIS ADVANCEMENT

Ellis County, which advanced from a minor position to take first rank as the leading wildcat county during the half year, also was in the spotlight because of increased activity in the Bemis and Ruder areas, due to the completion of new pipe lines into the area. An important strike was the discovery of a deeper pay zone in the Bemis pool in March when Margay Oil Co. No. 1 Bemis "B," SW cor. section 15-11-17w, found production in Siliceous lime at 3,380-82 feet, total depth. It made potential of 1,353 bbls. when completed in April. Previous production was from Oswald lime. The Ruder pool of Ellis County was extended one-half mile northeast in June by Tom Palmer and Storm King Oil Co. No. 1 Madden, NW SW section 9-15-18w, and made potential of 1,011 bbls. A new pool in the Ruder district also was opened in June at Bridgeport Machine Co. and others No. 1 Madden Estate, NE NW NW section 26-15-18w, wildcat southeast of Ruder. More completions in the Ruder area recently have made that sector look like a major field. Palmer and Storm King Oil Co. are developing a 2,500-acre block in the area.

One of the most active of the major producing areas was the Silica pool, in western Rice and eastern Barton Counties. It was so named by the Kansas nomenclature committee in January when the Steckel and Isern pools were joined. Completions of large producers have been numerous on both sides of the line. The Chase pool of Rice County, the Burrton field of Reno County, the Gorham and Sellens areas of Russell County and the Lorraine district of Ellsworth County also had numerous completions in the first half year.

RUSSELL COUNTY

The thirty-third oil pool in Russell County was opened in March at Coralena Oil Co. No. 1 Disken, SE cor. section 30-15-13w, wildcat west of the Sellens area and midway between the Ochs and Ruder pools. It had Siliceous lime at 3,252-53 feet, total depth, and produced 1,428 bbls. of oil. The next Russell County pool to be opened was at Sam Murphy and others No. 1 Anschutz, SW cor. section 10-15-13w, wildcat north of the Sellens pool. It had Siliceous lime at 3,311-27 feet, total depth, and made potential of 515 bbls. The thirty-fifth Russell County pool was opened the week ended June 20, when Darby Petroleum Corp. and Continental Oil Co. No. 1 Letsch, SE NE NW section 34-14-13w, east of the Hall pool, was completed. It made potential of 419 bbls. of oil from Kansas City lime at 2,880 feet.

An important pool was opened in northeastern Barton County late in February when Yarnell, Carlson & Spencer completed No. 1 Bloomer, NE NE NW section 36-17-11w, east of Claflin. It made potential of 470 bbls. of oil from Siliceous lime at 3,257-81 feet. Texas Co. entered the area, which was named the Bloomer pool, and in April completed the second producer at No. 1 Moran, SE SW section 25-17-11w, which pumped 810 bbls. in 14 hours from Siliceous lime at 3,285 feet, total depth.

The most northerly pool in the state was opened late in January at F. A. Gillespie & Sons No. 1 Low, NE NE NW section 12-6-18w, in northern Rooks County, 32 miles south of the Nebraska line. It had Kansas City lime at 3,036-3,150 feet; drilled to 3,162 feet, total depth; plugged back to 3,150 feet and produced 306 bbls. of oil when completed about March 1.

OXFORD PASSED PEAK

The Oxford field of Sumner County started the new year off as though it would continue its sensational showing that made it the big flash of 1935. Amerada Petroleum Corp.

KANSAS (Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls)
Geneseo—							
Daily average	449	392	416	638	781	1,121	
Month	13,919	11,368	12,896	19,140	24,211	33,630	115,164
Hauschild—							
Daily average	.....	.....	.....	.....	.....	1,307	
Month	.....	.....	.....	.....	.....	39,210	39,210
Orth—							
Daily average	187	184	230	212	208	231	
Month	5,797	5,336	7,130	6,360	6,448	6,930	38,001
Silica—							
Daily average	4,751	5,165	6,737	9,512	10,526	10,233	
Month	147,281	149,785	208,847	285,360	326,306	306,990	1,424,569
Keesling—							
Daily average	1,985	1,689	2,143	2,660	2,648	2,616	
Month	61,535	48,981	66,433	79,800	82,088	78,480	417,317
Ploog—							
Daily average	582	533	660	688	633	610	
Month	18,042	15,457	20,460	20,640	19,623	18,300	112,522
Raymond—							
Daily average	2,463	2,610	3,147	3,401	3,761	3,464	
Month	76,353	75,690	97,557	102,030	116,591	103,920	572,141
Edwards—							
Daily average	.....	.....	.....	273	303	581	
Month	.....	.....	.....	8,190	9,393	17,430	35,013
Stumps—							
Daily average	271	313	395	394	331	476	
Month	8,401	9,077	12,245	11,820	10,261	14,280	66,084
Wherry—							
Daily average	170	160	199	198	253	234	
Month	5,270	4,640	6,169	5,940	7,843	7,020	36,882
Welch—							
Daily average	675	648	652	658	626	609	
Month	20,925	18,792	20,212	19,740	19,406	18,270	117,345
Miscellaneous—							
Daily average	123	113	195	205	271	84	
Month	3,813	3,277	6,045	6,150	8,401	2,520	30,206
ROOKS COUNTY:							
Daily average	38	21	34	35	25	127	
Month	1,178	609	1,054	1,050	775	3,810	8,476
RUSH COUNTY:							
Daily average	13	26	59	7	104	131	
Month	403	754	1,829	210	3,224	3,930	10,350
RUSSELL COUNTY:							
Atherton—							
Daily average	74	345	377	480	521	233	
Month	2,294	10,005	11,687	14,400	16,151	6,990	61,527
Big Creek—							
Daily average	.....	.....	221	275	292	218	
Month	.....	.....	6,851	8,250	9,052	5,540	30,693
Eichman—							
Daily average	301	670	818	833	665	627	
Month	9,331	19,430	25,358	24,990	20,615	18,810	118,534
Fairport—							
Daily average	2,825	2,521	2,747	2,781	2,711	2,596	
Month	87,575	73,109	85,157	83,430	84,041	77,880	491,192
Gorham-E. Gorham—							
Daily average	3,558	4,175	4,565	4,612	4,056	3,910	
Month	110,298	121,075	141,515	138,360	125,736	117,300	754,284
Gurney—							
Daily average	199	335	221	338	382	351	
Month	6,169	9,715	6,851	10,140	11,842	10,530	55,347
Hall—							
Daily average	495	408	736	763	648	764	
Month	15,345	11,832	22,816	22,890	20,088	22,920	115,891
Neidenthal—							
Daily average	676	695	757	843	736	655	
Month	20,956	20,155	23,467	25,290	22,816	19,650	132,334
Ochs—							
Daily average	376	361	330	332	335	383	
Month	11,656	10,469	10,230	9,960	10,385	11,490	64,190
Russell—							
Daily average	2,542	3,512	3,475	3,421	2,273	2,179	
Month	78,802	101,848	107,725	102,630	70,463	65,370	526,838
Sellens—							
Daily average	821	797	1,020	1,164	976	1,098	
Month	25,451	23,113	31,620	34,920	30,256	32,940	178,300
Sullivan—							
Daily average	1,645	2,230	2,861	3,170	3,538	2,527	
Month	50,995	64,670	88,691	95,100	109,678	75,810	484,944
Miscellaneous—							
Daily average	163	168	641	1,216	1,318	1,522	
Month	5,053	4,872	19,871	36,480	40,858	45,660	152,794
SCOTT COUNTY:							
Daily average	.....	.....	.....	103	24	.....	
Month	.....	.....	.....	3,090	744	.....	3,834
STAFFORD COUNTY:							
Gates—							
Daily average	235	234	211	216	184	178	
Month	7,285	6,786	6,541	6,480	5,704	5,340	38,136
Richardson—							
Daily average	1,217	1,137	1,233	1,416	1,177	1,121	
Month	37,727	32,973	38,223	42,480	36,487	33,630	221,520
Riley—							
Daily average	256	274	369	354	310	332	
Month	7,936	7,946	11,439	10,620	9,610	9,960	57,511
St. John—							
Daily average	52	135	81	34	139	506	
Month	1,612	3,915	2,511	1,020	4,309	15,180	28,547
Miscellaneous—							
Daily average	.....	.....	15	78	62	62	
Month	.....	.....	465	2,340	1,922	1,860	6,587
ELLIS COUNTY:							
Daily average	491	543	930	1,576	1,374	1,275	
Month	15,221	15,747	28,830	47,280	42,594	38,250	187,922
EDWARDS COUNTY:							
Daily average	36	.....	.....	31	.....	.....	
Month	1,116	.....	.....	930	.....	.....	2,046

(Continued on Next Page)

Helping the Oil Industry to Reduce Evaporation Losses

THE WIGGINS PONTOON ROOF

This roof floats on the surface of the liquid. Widely used on working tanks. Stops filling and breathing losses by eliminating the air space above oil, preventing vapor to form. Reduces fire hazard.

THE WIGGINS BREATHER ROOF

For standing storage tanks where oil level can be kept at or near the top. The roof is in effect a flexible steel diaphragm which permits a relatively large amount of breathing to occur without venting of vapor to atmosphere.

THE picture shown above offers a typical example of what can be accomplished in modernizing old tanks to make them into efficient containers for oil products. The cone roof on this 114½ ft. diameter crude oil storage tank at Santa Margarita, Calif., was replaced a year ago with a Wiggins Breather Roof. On the basis of comparative savings made over adjacent tanks with cone roofs, the new roof will pay for itself in from 19 to 20 months. Thereafter, the savings secured through reduction of evaporation losses can be credited as another source of operating income.

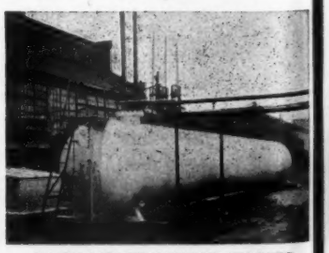
The reason we call attention to an example of modernization is that *it is never too late to start;* although obviously, greatest benefit is secured when Horton evaporation reducing products are made a part of original construction. The other illustrations on this page show some of the specially designed products which we offer to solve specific problems in the oil industry. We also fabricate and erect standard steel storage tanks —welded or riveted—bubble towers, agitators, elevated water storage tanks, etc. Ask our nearest office for information or quotations on any Horton product.

THE WIGGINS BALLOON

Designed to serve as a low pressure, large capacity container, affording temporary storage for vapor from one or more sources—as in a system of interconnected closed tanks.

PRESSURE STORAGE TANKS

Pressure storage is widely used for liquids likely to boil at atmospheric temperatures. The Hortonsphere shown above is for holding natural gasoline at pressures of 20 lbs. or more. This is just one of several advanced designs offered for the solution of special problems.



BUTANE-PROPANE TANKS

Increasing utilization of lighter fractions, such as butane and propane, has resulted in the construction of a considerable number of high pressure containers for these gases. The cylinder illustrated above holds 15,000 gal. of propane at 200 lbs. pressure.

CHICAGO BRIDGE & IRON WORKS

DALLAS . . . . 1241 Dallas Athletic Club Bldg.
HOUSTON . . . . . 2919 Main Street
TULSA . . . . . 1606 Thompson Building
BIRMINGHAM . . . . 1536 North Fiftieth Street
CHICAGO . . . . . 2128 Old Colony Building
DETROIT . . . . . 1514 Lafayette Building
CLEVELAND . . . . . 2204 Rockefeller Building
NEW YORK . . . . 3147 - 165 Broadway Building
PHILADELPHIA . . 1615-1700 Walnut St. Bldg.
BOSTON . . . . 1517 Consolidated Gas Building
SAN FRANCISCO . . . . . 1054 Rialto Building
LOS ANGELES . . . . . 1423 Wm. Fox Building

Fabricating Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

and Sunray Oil Co. completed a 16,208-bbl. producer at No. 2 Gassaway, SE SE SW section 14-32-2, early in January, producing from Simpson Dolomite at total depth of 2,868 feet. Later that month, Shell Petroleum Corp. No. 4 Scroggins-A, SE SE NW section 14-32-2, made potential of 11,042 bbls. The peak for the area had been passed, however, and since then only two or three large and numerous small producers have been completed.

The record of wildcat results for the six months' period is summed up in the following table:

RESULTS OF WILDCAT DRILLING IN KANSAS

First Six Months of 1936

County—	Oil and gas wells	Dry holes	Average dry hole depth
Barton	2	10	3,472
Butler	1	2	2,543
Clark	0	1	6,801
Cowley	*4	11	2,836
Ellis	5	4	3,668
Ellsworth	0	4	3,219
Finney	†1	0	....
Greenwood	1	2	2,245
Harvey	1	2	3,561
Haskell	†1	0	....
Kingman	0	1	4,496
Marion	0	1	3,038
McPherson	0	1	3,650
Norton	0	2	3,386
Pratt	†1	1	4,728
Reno	0	4	4,168
Rice	2	11	3,408
Rooks	1	1	3,701
Rush	0	3	3,618
Russell	6	10	3,341
Sedgwick	0	4	3,373
Stafford	1	4	3,720
Sumner	0	6	3,842
Trego	1	1	4,726
Woodson	1	9	1,542
Total	29	95	3,290
Percentage of oil wells			19
Percentage of gas wells			4
Percentage of dry holes			77
Average depth of 29 oil and gas wells, ft.			3,162
Average depth of 95 dry holes, ft.			3,290

*Two gas. †Gas.

WHAT WILDCATS FOUND

Wildcat producers completed in the first half of the year and not previously referred to were as follows:

Skelly Oil Co. and others No. 1 Community Gilchrist, C SE section 7-28-11w, eastern Pratt County, had Viola lime at 4,227-45 feet; total depth, 4,435 feet; plugged back to 4,245 feet and produced 14,941,000 feet of gas. Helmerich & Payne No. 1 Elliott, C SW section 30-29-33w, Haskell County, produced 2,412,000 feet of gas at 2,747 feet, total depth. These wells were completed the week ending February 1.

The next week, R. C. Tarrant No. 1 Williamson, SE SE NW section 9-14-14w, south of Russell in Russell County, had Tarkio lime at 2,515-50 feet, total depth, and made potential of 243 bbls.

National Refining Co. No. 1 McCullough, NE NE SW section 1-28-6, Butler County, was completed the week ending February 15, opening the McCullough pool. It had Wilcox sand at 3,169-75 feet, total depth, and made potential of 107 bbls. In that same week McPherson Drilling Co. and Derby Oil Co. completed No. 1 Scheuchzer, NE SE SW section 17-24-4w, which made potential of 689 bbls. from Chat at 3,307 feet; total depth, 3,391 feet, and extended the Burrton pool to the southwest. Although listed as a wildcat, it was not included among pool openers.

Central Petroleum Co. No. 1 Benso, SE SE SW section 9-14-15w, south of the Gorham pool, Russell County, made potential of 292 bbls. from Oswald lime at 3,085-96 feet, and was completed the week ending February 22. Derby Oil Co. No. 1 Schrock, SE SE SW section 27-24-5w, another wildcat in the Burrton-Yoder district, Reno County, made potential of 43 bbls. of oil and was completed as an extensioner at 3,951 feet, total depth, the week ending February 29. The Hilger pool of Reno County also was extended north of Rose Spring Drilling Co. and Foraker No. 1 Brauer, SW SW SE section 4-26-4w, which flowed 560 bbls. from 4,113 feet, total depth.

Mohawk Oil Co. No. 1-A Edgar, NE NE SW section 2-28-8, had Mississippi lime at 2,540-48 feet, total depth, pumped 35 bbls. in 24 hours and opened a new area in southwestern Greenwood County the week ending March 27. Another pool opener of the week was Chris Sheedy and others No. 2 Warner, SW cor. section 21-25-14, Woodson County, which flowed 100 bbls. of oil from sand at 1,426 feet; total depth, 1,500 feet. The following week Roth & Faurot opened a new pool in Cowley County at No. 1 Sherwood, NE NW SW section 11-31-4. It made potential of 215 bbls. at 3,031 feet, total depth.

C. E. Skiles and others No. 1 Edwards, NW NW NE section 3-18-8w, Rice County, had Siliceous lime at 3,278-82 feet, total depth, and made potential of 550 bbls., March 21. Hartman & Blair No. 1 Boxberger, NW NW SW section 32-13-14w, Russell County, had Oswald lime at 3,039-3,220 feet, total depth, and made potential of 545 bbls., March 28.

COWLEY DISCOVERIES

In Cowley County, Shawver & Wilt completed No. 1 Baruth, SW NW NE section 8-34-3, at 3,305 feet, total depth. It made potential of 125 bbls., April 4. Continental Oil Co. and Empire Oil & Refining Co. No. 1 Community Nickel, NE SW SW section 13-18-8w, Rice County, made potential of 1,428 bbls. from Siliceous lime at 3,210-16 feet, total depth, April 18. That same week, L. A. Farris and

KANSAS (Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls)
GREENWOOD AND WOODSON COUNTIES:							
Pixley—							
Daily average	311	268	429	457	556	551	
Month	9,641	7,772	13,299	13,710	17,236	16,530	78,188
Browning—							
Daily average	485	483	527	514	494	512	
Month	15,036	14,007	16,337	15,420	15,314	15,360	91,473
Burkett—							
Daily average	219	218	247	226	235	231	
Month	6,789	6,322	7,657	6,780	7,285	6,930	41,763
DeMalorie-Sowder—							
Daily average	492	469	492	525	521	519	
Month	15,252	13,601	15,252	15,750	16,151	15,570	91,576
Dunaway—							
Daily average	223	209	253	289	264	272	
Month	6,913	6,061	7,843	8,670	8,184	8,160	45,831
Hamilton—							
Daily average	447	420	447	472	420	460	
Month	13,857	12,180	13,857	14,160	13,020	13,800	80,874
Lamont—							
Daily average	451	450	432	446	425	433	
Month	13,981	13,050	13,392	13,380	13,175	12,990	79,968
Madison—							
Daily average	775	767	809	791	778	769	
Month	24,025	22,243	25,079	23,730	24,118	23,070	142,365
Quincy—							
Daily average	799	756	793	759	1,158	1,010	
Month	24,769	21,924	24,583	22,770	35,898	30,300	160,244
Sallyards—							
Daily average	468	448	495	471	496	480	
Month	14,508	12,992	15,345	14,130	15,376	14,400	86,751
Seeley-Wick—							
Daily average	1,043	1,042	1,109	1,172	1,138	1,144	
Month	32,333	30,218	34,379	35,160	35,278	34,320	201,688
Teeter-Scott—							
Daily average	997	903	1,031	1,078	1,036	1,049	
Month	30,907	26,187	31,961	32,340	32,116	31,470	184,981
Thrall-Agard—							
Daily average	546	514	583	583	575	569	
Month	16,926	14,906	18,073	17,490	17,825	17,070	102,290
Virgil and N. Virgil—							
Daily average	1,278	1,112	1,409	1,455	1,350	1,370	
Month	39,618	32,248	43,679	43,650	41,850	41,100	242,145
Wiggins—							
Daily average	147	139	133	150	120	132	
Month	4,567	4,031	4,123	4,500	3,720	3,960	24,891
Winterscheid—							
Daily average	704	586	806	811	774	780	
Month	21,824	16,994	24,986	24,330	23,994	23,400	135,528
Reece—							
Daily average	130	134	130	104	139	136	
Month	4,030	3,886	4,030	3,120	4,309	4,080	23,455
Miscellaneous—							
Daily average	580	573	677	646	662	658	
Month	17,980	16,617	20,987	19,380	20,522	19,740	115,226
SUMNER COUNTY:							
Oxford—							
Daily average	9,590	8,739	8,237	7,215	5,325	5,262	
Month	297,290	253,431	255,347	216,450	165,075	157,860	1,345,453
Churchill—							
Daily average	1,356	962	1,120	1,011	962	971	
Month	42,036	27,898	34,720	30,330	29,822	29,130	193,936
Wellington—							
Daily average	1,295	1,252	1,356	1,751	1,649	1,250	
Month	40,145	36,308	42,036	52,530	51,119	37,500	259,638
Padgett—							
Daily average	267	313	290	306	280	276	
Month	8,277	9,077	8,990	9,180	8,680	8,280	52,484
Miscellaneous—							
Daily average	208	246	216	225	221	225	
Month	6,448	7,134	6,696	6,750	6,851	6,750	40,629
MARION COUNTY:							
Florence—							
Daily average	188	205	184	189	214	202	
Month	5,828	5,945	5,704	5,670	6,634	6,060	35,841
Peabody—							
Daily average	182	104	119	147	116	119	
Month	5,642	3,016	3,689	4,410	3,596	3,570	23,923
Covert-Sellers—							
Daily average	184	170	199	192	92	180	
Month	5,704	4,930	6,169	5,760	2,852	5,400	30,815
Lost Springs—							
Daily average	250	268	347	358	321	318	
Month	7,750	7,772	10,757	10,740	9,951	9,540	56,510
Hillsboro—							
Daily average	319	346	420	381	310	324	
Month	9,889	10,034	13,020	11,430	9,610	9,720	63,703
BUTLER COUNTY:							
Elbing—							
Daily average	1,015	1,072	1,156	1,226	1,104	1,210	
Month	31,465	31,088	35,836	36,780	34,224	36,300	205,693
Potwin—							
Daily average	1,235	1,173	1,197	1,213	1,180	1,186	
Month	38,285	34,017	37,107	36,390	36,580	35,580	217,959
South Augusta—							
Daily average	1,134	1,110	1,193	1,184	1,170	1,172	
Month	35,154	32,190	36,983	35,520	36,270	35,160	211,277
North Augusta—							
Daily average	434	434	450	433	419	418	
Month	13,454	12,586	13,950	12,990	12,989	12,540	78,509
Young—							
Daily average	121	128	129	133	115	130	
Month	3,751	3,712	3,999	3,990	3,565	3,600	22,617

(Continued on Next Page)

others No. 1 Snyder, SE SE NW section 3-21-11w, Stafford County, made potential of 390 bbls. from Kansas City lime at 3,070-3,111 feet, total depth. Western Kansas Oil & Refining Co. No. 1 Warkentin, C SW SW section 1-23-2w, Harvey County, had Mississippi lime at 2,970-3,001 feet, total depth, and made potential of 569 bbls., April 25.

Penwest Oil Co. No. 1 Clover, NE SE SE section 8-31-7, Cowley county, produced 8,000,000 feet of gas and was completed at 3,182 feet, total depth, May 2. That same week, Continental Oil Co. completed No. 1 Holcomb, C E half E half NW 26-11-23w, Trego county, at 3,654 feet, total depth in Oswald lime. It made potential of 616 bbls. Simpson & Noble and Atlantic Oil Producing Co. No. 1 Hiss, C NW NE section 31-20-13w, Barton County, had Kansas City lime at 3,205-90 feet, total depth, and made potential of 1,160 bbls., May 16. Lario Oil & Gas Co. No. 1 Walter, SE NE SW section 2-12-18w, Ellis County, made potential of 1,159 bbls. from Topeka lime at 3,060-3,165 feet, total depth, completed week ending May 23.

Roth & Faurot No. 1 Guthrie, NW cor. section 30-33-8, Cowley County, produced 750,000 feet of gas and was completed at 3,146 feet, total depth, June 13. Lone Star State Drilling Co. No. 1 Hamlin, SW SW NE section 31-24-34w, Finney County, produced 750,000 feet of gas and was completed at 2,700 feet, total depth, June 20. Harris & Haun and others No. 1 Schmeidler, SE SE SW section 3-13-17w, Ellis County, had Oswald lime at 3,274-3,362 feet, total depth, and made potential of 676 bbls., June 27. That same week, Twin Drilling Co. No. 1 Copeland, NE NE SW section 26-14-19w, Ellis County, had La-Motte sand at 3-704-10 feet, total depth, and made potential of 410 bbls.

Jones Brothers & Carpenter and others No. 1 Solomon, SE SE SW section 28-11-19w, opened a new pool in northwestern Ellis County late in June, although it was not officially completed until the week ending July 4. It had Siliceous lime at 3,629-32 feet, total depth, and made potential of 600 bbls.

Bridgeport Machine Co. and J. J. Hall No. 1 Madden estate, NE NW NW section 26-15-18w, wildcat southeast of the Ruder pool, Ellis County, was another late June pool opener. It had Oswald lime at 3,260-3,341 feet, total depth, and made potential of 400 bbls. of oil.

Another wildcat strike late in June was Shell Petroleum Corp. No. 1 Haferman, C N half N half SE section 6-19-9w, between the Ploog and Brandenstein areas in Rice County. It was not officially completed until the week ending July 11, but rates as a June strike. It had Siliceous lime at 3,192-3,216 feet, total depth, and made potential of 1,719 bbls.

A total of 757 wells were completed in Kansas in the first half of 1936, compared with 603 completions in the first half of 1935. April was the busiest month, with 161 completions. The total completions included 25 gas wells and 192 dry holes, the remainder being oil wells. Rice County set the pace with 139 completions, including 1 gas well and 25 dry holes.

These figures do not include completions in the stripper areas of southeastern Kansas, which experienced a considerable revival of activity during the half year. The Wilson-Neosho County area near Chanute was one of the busy districts in the stripper country, a new shallow pool being opened near the county line between Chanute and Altoona, in an old shale gas area. Another new pool was opened along the Chautauqua-Elk County line near Moline, resulting in considerable drilling activity. A third stripper play that caused considerable excitement was in the Neosho Falls district, northeastern Woodson County and southeastern Coffey County, where some old wells were deepened with good results. There was considerable deepening of old wells and drilling of new shallow wells throughout Chautauqua, Montgomery, Elk, Wilson, Neosho and other eastern stripper counties.

KANSAS

Summary of Wells Completed in First Half of 1936

County—	Comp.	Prod.	Dry	Gas
Barton	81	67,807	19	0
Butler	30	3,360	8	0
Chase	1	100	0	0
Clark	1	0	1	0
Coffey	6	161	2	0
Cowley	42	5,267	21	3
Dickinson	1	0	1	0
Elk	1	184	0	0
Ellis	22	14,296	6	0
Ellsworth	21	10,635	6	0
Finney	1	0	0	1
Grant	1	0	0	1
Greenwood	42	1,412	16	0
Harvey	11	695	4	5
Haskell	1	0	0	1
Kingman	2	0	2	0
Marion	3	385	1	0
McPherson	19	5,526	1	0
Morris	1	0	1	0
Morton	1	0	0	1
Norton	2	0	2	0
Pratt	3	285	1	1
Reno	77	43,861	8	2
Rice	139	104,457	25	1
Rooks	3	313	1	0
Russell	110	59,660	22	0
Rush	10	100	3	6
Sedgwick	10	979	7	0
Stafford	12	5,581	5	0
Stevens	5	0	1	4
Sumner	56	51,211	12	0
Trego	3	686	1	0
Woodson	39	4,435	15	0
Total	757	381,396	192	25

Completions by Months

	Comp.	Prod.	Dry	Gas
January	117	76,963	26	9
February	87	26,305	24	4
March	116	55,871	20	1
April	161	89,321	43	3
May	133	62,803	43	4
June	143	70,133	36	4
Total	757	381,396	192	25
Same period 1935	603	345,707	129	18
Difference	154	35,689	63	7

KANSAS (Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls)
Garden—							
Daily average	229	199	218	223	245	239	
Month	7,099	5,771	6,758	6,690	7,595	7,170	41,083
Sluss-Smock—							
Daily average	189	183	209	202	197	196	
Month	5,859	5,307	6,479	6,060	6,107	5,880	35,692
Kramer—							
Daily average	280	219	272	273	261	266	
Month	8,680	6,351	8,432	8,190	8,091	7,980	47,724
Haverhill—							
Daily average	326	315	308	350	344	349	
Month	10,106	9,135	9,548	10,500	10,664	10,470	60,423
Eldorado—							
Daily average	9,870	9,236	9,850	9,802	9,871	9,860	
Month	305,970	267,844	305,350	294,060	306,001	295,800	1,775,025
Leon—							
Daily average	94	62	66	65	70	66	
Month	2,914	1,798	2,046	1,950	2,170	1,980	12,858
Fox-Bush—							
Daily average	503	468	503	511	515	520	
Month	15,593	13,572	15,593	15,330	15,965	15,600	91,653
Douglas—							
Daily average	95	118	124	109	104	111	
Month	2,945	3,422	3,844	3,270	3,224	3,330	20,035
Keighley—							
Daily average	131	131	142	199	233	218	
Month	4,061	3,799	4,402	5,970	7,223	6,540	31,995
Blankenship—							
Daily average	269	243	293	267	284	283	
Month	8,339	7,047	9,083	8,010	8,804	8,490	49,773
Miscellaneous—							
Daily average	978	1,091	1,139	839	451	502	
Month	30,318	31,639	35,309	25,170	13,981	15,060	151,477
SEDGWICK COUNTY:							
Valley Center—							
Daily average	2,034	2,028	2,041	2,212	2,090	1,317	
Month	63,054	58,812	63,271	66,360	64,790	39,510	355,797
Greenwich—							
Daily average	1,475	1,401	1,373	1,490	1,446	1,276	
Month	45,725	40,629	42,563	44,700	44,826	38,280	256,723
Robbins—							
Daily average	1,767	1,617	1,548	1,438	1,364	1,486	
Month	54,777	46,893	47,988	43,140	42,284	44,580	279,662
Eastborough—							
Daily average	876	937	916	942	780	811	
Month	27,156	27,173	28,396	28,260	24,180	24,330	159,495
Goodrich—							
Daily average	356	331	336	1,216	316	311	
Month	11,036	9,599	10,416	36,480	9,796	9,330	86,657
Miscellaneous—							
Daily average	206	118	162	98	67	416	
Month	6,386	3,422	5,022	2,940	2,077	12,480	32,327
COWLEY COUNTY:							
Burden—							
Daily average	571	515	508	672	552	571	
Month	17,701	14,935	15,748	20,160	17,112	17,130	102,786
Grand Summit—							
Daily average	204	222	194	232	110	160	
Month	6,324	6,438	6,014	6,960	3,410	4,800	33,946
Eastman—							
Daily average	241	234	251	268	253	251	
Month	7,471	6,786	7,781	8,040	7,843	7,530	45,451
Carson—							
Daily average	231	249	243	240	245	242	
Month	7,161	7,221	7,533	7,200	7,595	7,260	43,970
Winfield—							
Daily average	511	492	499	472	474	476	
Month	15,841	14,268	15,469	14,160	14,694	14,280	88,712
State—							
Daily average	431	462	459	447	431	438	
Month	13,361	13,398	14,229	13,410	13,361	13,140	80,899
Rainbow Bend—							
Daily average	1,056	964	1,020	1,056	1,026	1,030	
Month	32,736	27,956	31,620	31,680	31,806	30,900	186,698
Weathered—							
Daily average	400	289	417	395	450	410	
Month	12,400	8,381	12,927	11,850	13,950	12,300	71,808
Miscellaneous—							
Daily average	1,144	1,274	1,247	1,506	1,518	1,512	
Month	35,464	36,946	38,657	45,180	47,058	45,360	248,665
COFFEY COUNTY:							
Daily average	56	58	55	53	74	69	
Month	1,736	1,682	1,705	1,590	2,294	2,090	11,077
LYON COUNTY:							
Daily average	368	347	365	393	388	383	
Month	11,408	10,063	11,315	11,790	12,028	11,490	68,094
TREGO COUNTY:							
Wakeeney—							
Daily average	76	297	323	250	122	302	
Month	2,356	8,613	10,013	7,500	2,782	9,060	41,324
MISCELLANEOUS:*							
Daily average	6,455	5,858	7,182	7,914	7,616	7,380	
Month	200,105	169,882	222,642	237,420	236,096	221,400	1,287,545
Daily average	140,121	138,012	150,816	161,179	153,377	148,068	148,645
Total first six months 1936	4,343,751	4,002,348	4,675,296	4,835,370	4,754,687	4,442,040	27,053,492
Total first six months 1935	4,190,672	4,107,292	4,630,098	4,378,950	4,605,236	4,427,670	26,339,919
Total first six months 1934	3,359,842	3,171,084	3,956,778	3,935,130	4,076,934	3,962,460	22,462,228
Total first six months 1933	2,871,282	2,801,512	3,604,539	3,492,990	3,277,103	3,210,150	19,257,576
Total first six months 1932	3,170,587	2,838,839	3,042,929	2,974,080	3,038,930	2,837,179	17,092,544

*Miami, Franklin, Linn, Anderson, Bourbon, Allen, Neosho, Wilson, Labette, Montgomery, Elk and Chautauqua Counties.

IN THE MANSION AREA OF OKLAHOMA CITY

95%

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POWERFUL—Ample safety factor has been built into this clutch to permit starting loads 100% higher than normal rating.

COMPACT—High quality materials and careful design has made it possible to keep dimensions within practical limits without sacrificing horsepower capacity.

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UNIFORM PRESSURE ON FRICTION PLATE—Three sets of toggles insure even pressure on friction plates.

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CONSTANT SHIFTER TRAVEL—The movement of slip-ring is constant and not affected by wear of friction material or adjustment of clutch.

EASY ADJUSTMENT—One point adjustment is simple, positive and convenient—simply turn adjustment ring which is easily accessible.

SLEEVE SEPARABLE FROM DRIVING RING—This permits use of plain, bronze bushed, capillary bronze bushed or anti-friction sleeve with same driving ring.

DIRECT MOUNTING—The driving ring can be bolted direct to pulleys, sprockets, drums or other devices.

FLEXIBLE DESIGN—Clutch can be furnished with bolted plate friction discs, cast iron or steel plates or other special features to meet various service conditions.

HIGH GRADE MATERIALS—Toggle links, pins and rollers are made of heat treated alloy steel. Cams are made of forged steel in smaller sizes and cast steel in larger sizes. Friction material is long wearing, molded asbestos composition with inter-woven brass wires. Will not warp or bind. All castings are of close grained semi-steel or cast steel and are of ample proportions to prevent distortion under load.

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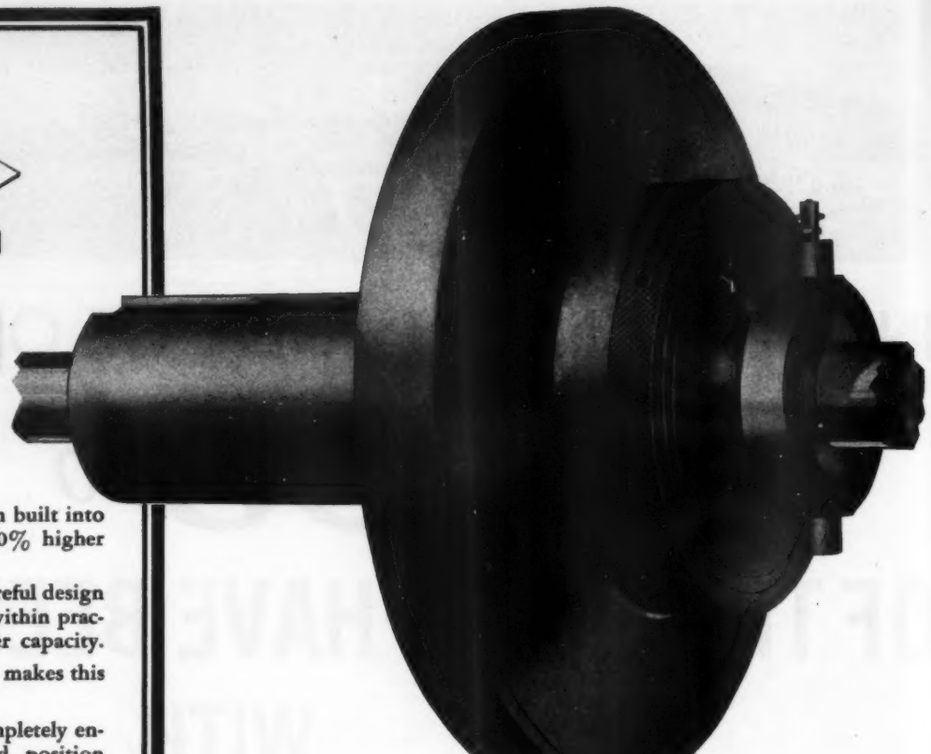

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DODGE MANUFACTURING CORPORATION

MISHAWAKA, INDIANA

SALES OFFICES IN PRINCIPAL CITIES

Semi-Annual Review

PERMIAN BASIN HAS GREAT REVIVAL, ADDING IMPORTANT POOLS

By L. E. BREDBERG

A record of activities in the West Texas district in the first half of 1936 shows that nearly twice as many wells were completed as there were in the same period last year, or 678 as against 371. New production was over twice as much, 330,475 bbls. of initial production having been recorded as against 149,848 bbls. in the first six months of 1935.

Winkler County experienced the greatest gain in activities of any of the counties in the district, with Upton County doubling its activities over the first half of 1935. In Winkler there were 154 tests completed this year, only five of which were dry holes, whereas during the same period in 1935 there were only 26 completions.

DISCOVERIES

Three of the most important discoveries made in the Permian Basin during the fore part of the year were listed in two of the northern tier of counties, opening a vast new area to leasing, royalty buying and exploitation by wildcatters, and resulting in the starting of several more wells and the proposal of still others in these and adjacent counties.

In April the Cascade Oil Corp. and Honolulu Oil Corp. completed No. 1 L. Bennett, in section 678, Block D, John H. Gibson Survey, in the southeast corner of Yoakum County, flowing 235 bbls. the first 24 hours after shooting and acidizing, thereby opening the first production in this county and the most northerly production in the basin. Total depth of the hole was 5,282 feet, but it was plugged back to 5,264 feet to shut off bottom-hole water before shooting the lime and acidizing to complete. The first oil showings in the well were found at 5,094-96 feet and 5,215-60 feet.

Another discovery for this part of the district was a gasser about 3 miles northwest of the town of Seminole in Gaines County. W. T. Walsh and Harry Adams Corp. of Midland put this well down on the Averitt ranch, in section 228, Block G, W.T. R.R. Survey. It was drilled to 4,910 feet and tested 12,000,000 feet of dry gas. It has been shut in since its discovery in April with no other test being drilled around it. About 12 miles south of it the first oil production for the county was opened by Landreth Production Co. on the W. H. Kirk ranch, in section 22, Block A-21, P.S.L. Survey. It was temporarily completed the latter part of June at 4,820 feet, swabbing around 107 bbls. per day after acidizing. It will probably be carried deeper in an effort to pick up a softer saturated streak in the lime. Gravity of the oil tested around 24 degrees (corrected) which is low for the Permian Basin oil. About 1,000,000 feet of gas was showing with the oil when the well was swabbed.

Going over into the county south of Gaines, the Humble Oil & Refining Co. extended the Means pool in Andrews County, 1½ miles farther to the northwest and 1 mile to the south, when its No. 1 Spinks in section 13, Block A-20, flowed 305 bbls. in 24 hours, on gas lift at total depth of 4,550 feet, after shooting and acid-

WEST TEXAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
OGDEN, ANDREWS:							
Daily average	833	966	1,062	1,167	1,149	1,244	
Month	25,823	28,014	32,922	34,710	35,619	37,320	194,408
CHURCH-FIELDS AND McELROY, CRANE:							
Daily average	10,412	11,694	12,415	12,726	11,825	11,466	
Month	322,772	339,126	384,865	381,780	366,575	343,980	2,139,098
SAND-HILLS, CRANE:							
Daily average	90	127	176	208	311	455	
Month	2,790	3,683	5,456	6,240	9,641	13,650	41,460
WHITE AND BAKER, PECOS:							
Daily average	5	6	5	4	3	4	
Month	155	174	155	120	93	120	817
TODD AND WORLD, CROCKETT:							
Daily average	826	820	1,010	1,064	1,068	1,059	
Month	25,606	23,780	31,310	31,920	33,108	31,770	177,494
COWDEN, ECTOR:							
Daily average	3,753	3,761	5,393	6,388	6,984	6,817	
Month	116,343	109,069	167,183	191,640	216,504	204,510	1,005,249
ADDIS, ECTOR:							
Daily average	597	590	277	594	411	409	
Month	18,507	17,110	8,587	17,820	12,741	12,270	87,035
BOREN, GARZA:							
Daily average	17	18	18	20	19	20	
Month	527	522	558	600	589	600	3,396
CHALK-ROBERTS, HOWARD-GLASSCOCK:							
Daily average	17,980	20,112	17,276	20,073	20,214	19,144	
Month	557,380	583,248	535,556	602,190	626,634	574,320	3,479,328
MERTZON, IRION:							
Daily average	51	44	44	45	28	46	
Month	1,581	1,276	1,364	1,350	868	1,380	7,819
WHEAT, LOVING:							
Daily average	1,911	1,907	1,886	1,854	1,866	1,769	
Month	59,241	55,303	58,466	55,620	57,846	53,070	339,546
IATAN, MITCHELL:							
Daily average	4,780	5,265	5,310	5,669	6,914	7,613	
Month	148,180	152,685	164,610	170,070	214,334	228,390	1,078,269
COURTNEY, PECOS:							
Daily average	12	10	11	10	11	10	
Month	372	290	341	300	341	300	1,944
MASTERSON, PECOS:							
Daily average	156	154	173	211	210	204	
Month	4,836	4,466	5,363	6,330	6,510	6,120	33,625
PECOS VALLEY, PECOS:							
Daily average	242	253	356	426	608	809	
Month	7,502	7,337	11,036	12,780	18,848	24,270	81,773
KEYSTONE, WINKLER:							
Daily average	846	1,056	1,146	1,330	1,392	1,468	
Month	26,226	30,624	35,526	39,900	43,152	44,040	219,468
TAYLOR-LINK, PECOS:							
Daily average	1,359	1,345	1,347	1,353	1,388	1,319	
Month	42,129	39,005	41,757	40,590	43,028	39,570	246,079
YATES, PECOS:							
Daily average	40,718	39,842	41,044	40,990	39,162	36,135	
Month	1,262,258	1,155,418	1,272,364	1,229,700	1,214,022	1,083,750	7,217,512
McCAMEY-HURDLE, UPTON:							
Daily average	7,111	7,964	9,576	9,495	8,792	8,854	
Month	220,441	230,956	296,856	284,850	272,552	265,620	1,571,275
GRAND FALLS, WARD:							
Daily average	9,825	10,256	14,792	14,374	14,610	14,585	
Month	304,575	297,424	458,552	431,220	452,910	437,550	2,382,231
MONAHANS-O'BRIEN, WARD:							
Daily average	6,733	6,646	10,779	11,088	11,175	10,612	
Month	208,723	192,734	334,149	332,640	346,425	318,360	1,733,031
HENDRICK, WINKLER:							
Daily average	15,683	15,477	15,750	15,952	15,946	13,617	
Month	486,173	448,833	488,250	478,560	494,326	408,510	2,804,652
NORTH WINKLER, WINKLER:							
Daily average	4,562	5,529	6,311	6,779	10,415	11,117	
Month	141,422	160,341	195,641	203,370	322,865	333,510	1,357,149
BIG LAKE, REAGAN:							
Daily average	8,610	8,207	8,880	8,812	8,660	7,684	
Month	266,910	238,003	275,280	264,360	268,460	230,520	1,543,533
PENN, ECTOR:							
Daily average	6,104	6,125	6,296	6,675	6,684	6,260	
Month	189,224	177,625	195,176	200,250	207,204	187,800	1,157,279
MEANS, ANDREWS:							
Daily average	892	935	1,089	1,465	1,515	1,447	
Month	27,652	27,115	33,759	43,950	46,965	43,410	222,851
WADDELL, CRANE:							
Daily average	660	1,415	1,920	2,067	2,047	1,914	
Month	20,460	41,035	59,520	62,010	63,457	57,420	303,902
MONROE, WARD:							
Daily average	25	25	26	24	25	24	
Month	775	725	806	720	775	720	4,521
GOLDSMITH, ECTOR:							
Daily average	526	390	605	485	606	1,024	
Month	16,306	11,310	18,755	14,550	18,786	30,720	110,427
SHIPLEY, WARD:							
Daily average	1,574	1,580	1,572	1,583	1,577	1,569	
Month	48,794	45,820	48,732	47,490	48,887	47,070	286,793
Daily average	146,893	152,519	166,545	172,921	175,615	168,688	163,912
Total first six months 1936	4,553,683	4,423,051	5,162,895	5,187,630	5,444,065	5,060,640	29,831,964
Total first six months 1935	4,552,381	4,149,964	4,600,741	4,392,450	4,469,983	4,305,750	26,471,269
Total first six months 1934	3,824,284	3,618,748	4,081,832	4,051,380	4,346,572	4,172,130	24,094,946
Total first six months 1933	4,921,994	4,455,612	5,079,691	4,876,600	4,981,948	4,913,940	29,228,785
Total first six months 1932	5,784,135	4,991,045	5,528,137	5,551,500	5,624,337	5,328,870	32,807,924

izing. The southern extension was located on the Means ranch in section 19, 1 mile south of production. The field is now 6 miles long from southeast to the northwest.

ECTOR DISCOVERIES

Two discoveries of importance in Ector County were those of William H. Dunning, Jr., on the Cummins ranch, in the northwest corner of the county, and York & Harper No. 1 Foster, 3 miles west of Odessa near the eastern side of the county. The latter discovery was made the latter part of 1935, but was not completed until in February, 1936, when it was shot and made 266 bbls. per day on the pump at a total depth of 4,310 feet, to where it was plugged back from 4,342 feet to shut off water. It is located in section 104, Block 43, Township 1s, T.&P. Survey. The first oil was logged at 4,090-4,104 feet with an increase at 4,134 feet. The area has already been extended 1 mile to the northwest by the Stanolind Oil & Gas Co.

The other important discovery, which has either opened a new pool, or will mark a 3-mile northwest extension to the Goldsmith pool, opened the latter part of 1935, was William H. Dunning, Jr., No. 1 Cummins, located in the SE quarter of section 33, Block 34, Township 1n, T.&P. Survey. It is also 3½ miles southwest of another producing area and 4½ miles southeast of a lone producer in section 10, all of which may later be linked by production as wells are drilled on intervening acreage. The Cummins well topped the pay at 4,244 feet and made better than 30 bbls. per hour after drilling to 4,267 feet and finding more saturated lime, deepening from the previous total depth of 4,252 feet where it flowed at the rate of 20 bbls. per hour. Before this discovery was made, the same operator extended the Goldsmith field 1½ miles to the north and west by a well on the Scharbauer ranch, in section 33, Block 44, Township 1n, T.&P. Survey. It was completed at a total depth of 4,175 feet, making between 8 and 10 bbls. per hour after the shot.

The Cowden pool, in northern Ector County, has seen much drilling during the first six months of the year, the field being extended in all directions, the largest extensions being to the south and west. The Stanolind Oil & Gas Co. holds the grater part of the acreage underlying this field. The Penn pool has also witnessed considerable drilling during the year, with outpost wells extending the producing limits of the area in several directions.

IMPORTANT ORDOVICIAN DISCOVERY

One of the outstanding strikes in the Permian Basin was made by the Gulf Oil Corp. on its Tubbs-Waddell block which is known as the Sand Hills area on the west edge of Crane County. The company's No. 1 Waddell, in section 18, Block B-21, P.S.L. Survey, 1½ miles northwest of the discovery well of the pool (a Permian lime oil well), was completed in February as an Ordovician producer, the second Ordovician field discovery in the district, and the first outside of the Big Lake field in Reagan County. It was drilled to a total depth of 6,450 feet, but was plugged back to 6,317 feet to shut off water, was shot and completed for 123 bbls. initially, on the pump. Gravity of the oil tested 34.7 degrees, much lower than the deep oil of the Big Lake field. It topped the Ellenberger lime, pay member of the Ordovician, at 4,090 feet and logged the saturated lime at 5,979 feet. Gulf is drilling its second deep test near it. Humble Oil & Refining Co. opened a third producing horizon in the pool in its No. 1 Tubbs, located in section 11, Block B-27, 1 mile southeast of the discovery well in the pool and 3 miles southeast of the Ordovician discovery. This well logged saturated lime at 4,292-4,343 feet and from 4,361-75 feet, producing 861 bbls. in 24 hours through 2½-inch tubing from 1,800 feet in the lime section. Gravity of the oil was 37 degrees.

The Sinclair Prairie Oil Co. found another, and shallower pay in the pool at 3,164 feet. The test was first completed for a small pumper, but was later carried on deeper in quest of better production. It is located in section 3, Block B-27. This pool promises to be one of the best in the district as the Permian will pay off at three depths at least and production has been found in the Ellenberger. Gulf holds the bulk of the acreage in the area.

DEEP DISCOVERY

A discovery of importance, but which has caused little comment and small activity in its county, was that of the John M. Cooper No. 1 Bert Page, in section 40, Block L, B.H.& S.A. Survey, southeast of Eldorado in Schleicher County. It showed for a producer in December, 1935, but was not completed until the fore part of 1936, making from 10 to 12 bbls. of oil and 14,000,000 feet of gas from the Pennsylvanian. It was drilled to a total depth of 6,257 feet, but was plugged back to 5,535 feet to complete from the gas pay at 5,405-5,553 feet and oil pay found at 5,505-07 feet. Elevation is 2,270 feet. The owner is negotiating to drill a second test near the discovery, and has franchise to furnish gas to the towns of Sonora and Eldorado from the well.

UPTON COUNTY EXTENSION

McCamey and Sherk (Hurdle) old areas in Upton County, have seen much drilling during the 6 months' period, principally because of acid proving valuable in increasing production in the lime wells. One extension of importance was Brewer and Smith's No. 1 Cordova Union, located in section 19, Block 1, M K. & T. Survey, which made 374 barrels per day after acidizing the saturated lime logged at 2,007-72 feet.

JONES COUNTY DISCOVERY

N. H. Martin & Sons of Wichita Falls, opened a new producing area in Jones County the latter part of June. No. 1 Mary and E. P. Spurrier, located in the William Walker Survey, No. 1, 3 miles north of Nugent and 5 miles southwest of the Lueders pool, produces from the Hope sand logged at 1,921-28 feet. The well pumped 61 barrels in 12 hours and offset tests were immediately planned.

The Hawley pool, discovered a little over 1 year ago, has been one of the busiest spots in West Texas during the year. Deeper pay formations were uncovered, more prolific producers were brought in and the field was extended in nearly every direction. The first lime producer found in the pool was brought in in January by Martin & Sons in their No. 4 Dorsey, in Lot 5, M. Bueno Survey. Pay was topped at 1,925 feet and the well completed at 1,949 feet after acidizing with 2,000 gallons. It pumped 40 barrels per day. The regular pay in the pool is the Cook sand at around 1,950 feet and deeper, with other sands logged below it.

DEEP DISAPPOINTMENT

John I. Moore and others abandoned No. 1 L. S. McDowell, near the World or McDowell pool in northern Glasscock County the fore part of the year. Location is in section 22, Block 34, T. & P. Survey, on a 5,970-acre block. It was drilled to 10,906 feet, the third deepest test ever drilled in West Texas. It produced 200 bbls. of oil from the Pennsylvanian after a several weeks shut down at 10,115 feet before it was deepened.

WINKLER WIDENER

The prolific Henderson area, which is an extension to the north of the old Hendricks field in Winkler County, was given a 1 mile north extension during the middle of May when the Wahlenmaier Petroleum Corp. deepened an old gas producer to 3,070 feet, making an oil producer that flowed 1,800 bbls. in 11 hours. It is located on the Leck lands, in section 34, Block 74, P.S.L. Survey, and the oil pay was logged at 3,034 feet.

Another outpost well completed in Winkler County in January, was that of Wilgo Oil Co. on the Seth Campbell property, in section 18, Block B-3, 1¾ miles northeast of Kermit. 2 miles west and a little south of the nearest production in the Keystone area. This was completed at a total depth of 3,359 feet, making 126 bbls. on the pump.

The Brown and Altman (Kermit) Sayre-Howe, Halley and all other areas in Winkler County were extended during the year by many wells drilled in their vicinities. The Brown and Altman pool was linked with the old Hendricks field by production and the Brown and Altman and Sayre-Howe areas have been brought nearer to each other so that the two pools will eventually be linked by production according to present appearances. The county has staged the greatest comeback ever witnessed by a producing county in the district, with majors and independents alike taking an active part in the new development of the sandy lime trend paralleling the Hendricks field to the

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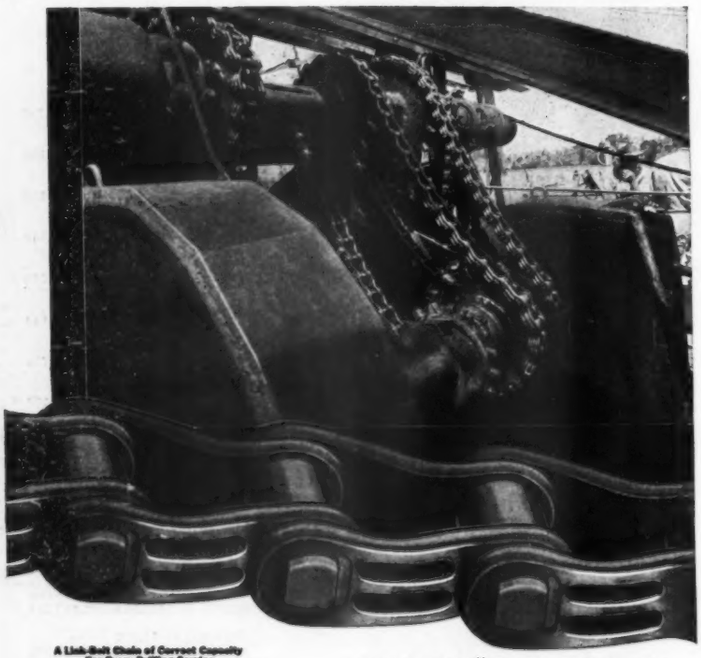

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SS-40 Hyper (API-3)	75,000
SS-40+ Rod-Hed (API-3)	48,000
SS-124+ Rod-Hed (API-4)	112,000
SS-40 (API-3)	38,000
SS-124 (API-4)	60,000

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east, and the extending of production to the north of the Hendricks field into the Leck and Scarborough areas. Gathering lines have been laid to all wells in the new areas, and gas gathering lines are now being laid to connect with wells in the new areas and a couple of casinghead gasoline plants are to be erected in the Sayre-Howe area, one by the Magnolia Petroleum Co.

WEST TEXAS

Summary of Operations First Six Months 1936

County—	Comp.	Prod.	Dry	Gas
Andrews	8	2,910	0	2
Brewster	2	0	2	0
Borden	1	0	1	0
Concho	1	0	1	0
Crane	31	28,826	3	0
Crockett	6	778	3	0
Culberson	1	0	1	0
Ector	46	26,271	1	0
Edwards	1	0	1	0
Fisher	13	2,805	6	0
Gaines	1	0	1	0
Garza	3	130	1	0
Glasscock	10	346	4	0
Howard	59	30,821	6	0
Irion	2	0	2	0
Jones	59	12,381	23	0
Kimble	1	0	1	0
Loving	4	401	1	0
Lynn	1	0	1	0
Martin	1	0	1	0
Menard	1	0	1	0
Mitchell	3	10	2	0
Pecos	84	23,239	14	2
Reagan	4	284	1	0
Reeves	2	0	2	0
Schleicher	1	12	0	0
Scurry	2	30	1	0
Taylor	1	0	1	0
Tom Green	2	0	2	0
Upton	54	17,773	3	3
Ward	118	78,374	6	3
Winkler	154	104,850	5	1
Yoakum	1	234	0	0
Total	678	330,475	98	11

Completions by Months

	Comp.	Prod.	Dry	Gas
January	107	38,987	18	4
February	75	37,463	10	2
March	108	50,626	14	2
April	139	75,983	20	0
May	120	56,842	16	2
June	129	70,574	20	1
Total six months	678	330,475	98	11
Same period 1935	371	149,848	81	4
Difference	307	180,627	17	7

WARD COUNTY EXTENSIONS

Different areas in Ward County were given extensions during the past 6 months, the Gulf Oil Corp. scoring a 2-mile northern extension to its O'Brien field into Winkler County when the Magnolia Petroleum Co. drilled No. 2 Sealy, in section 94, Block A. It flowed 389 bbls. in 3 hours from pay logged at 3,110-18 feet.

In January the Dobbs Oil Co. extended the southern Ward County producing area east of Grand Falls by 1 mile when it completed its No. 1 Gulf-Bray for 156 bbls. at a total depth of 2,563 feet, following a 50-quart shot from 2,538-63 feet. It is located in section 14, Block 5, H&T.C. Survey.

The California Co. and Richardson Oils Inc., also extended the southern Ward County area to the northwest in May, the latter company drilling in its No. 1 Hathaway, in section 37, Block 34, H.&T.C. Survey, for a gasser, later drilling an oil producer in its second well on this lease. Total depth of the gasser was 2,275 feet, with the gas pay picked up at 2,171 feet, the well gauging 12,000,000 feet of gas. Elevation is 2,599 feet.

No cessation in developments is expected the latter part of the year which will no doubt establish a record for West Texas in the amount of wells completed within a year's time. In 1928, the peak year for the district, there were 1,258 wells completed, and with over half this number finished in the fore part of 1936 it appears certain that the record will be broken.

The middle of May of this year saw the greatest number of locations ever reported in the district, including the peak year of 1928. There were 54 staked during the week of May 17. Locations are now averaging around 35 per week, with that number standing as about the average for completions.

The northern tier of counties, including Cochran, Yoakum, Gaines, Terry, Hockley, and others are expected to see considerable wildcatting, with tests starting up or drilling in each of these counties at the present. Many blocks will have to be tested the latter part of this year, due to their expiration. Company have been and will drill some of these blocks themselves, farming out others to independents to drill.

TEXAS PANHANDLE

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
CARSON COUNTY:							
Daily average	5,146	4,934	5,019	5,037	5,282	5,086	
Month	159,526	143,086	155,589	151,110	163,742	152,580	925,633
GRAY COUNTY:							
Daily average	29,584	28,175	29,116	29,470	30,815	30,116	
Month	917,104	817,075	902,596	884,100	955,265	903,480	5,379,620
HUTCHINSON COUNTY:							
Daily average	14,416	14,779	14,763	14,788	15,007	14,827	
Month	446,896	428,591	457,653	443,640	465,217	444,810	2,686,807
MOORE COUNTY:							
Daily average	1,107	1,177	1,184	1,209	1,309	1,256	
Month	34,317	34,133	36,704	36,270	40,579	37,680	219,683
WHEELER COUNTY:							
Daily average	11,647	9,626	11,494	11,355	12,400	10,111	
Month	361,057	279,154	356,314	340,650	384,400	303,330	2,024,905
Daily average	61,900	58,691	61,576	61,859	64,813	61,396	61,740
Total first six months 1936	1,918,900	1,702,039	1,908,856	1,855,770	2,009,203	1,841,880	11,236,648
Total first six months 1935	1,833,743	1,725,864	1,974,173	1,801,110	1,893,790	1,796,910	11,025,590
Total first six months 1934	1,310,432	1,386,644	1,714,982	1,656,600	1,805,471	1,716,090	9,590,219
Total first six months 1933	1,374,416	1,227,268	1,515,280	1,395,450	1,385,204	1,299,000	8,196,618
Total first six months 1932	1,537,104	1,392,464	1,461,526	1,523,850	1,605,397	1,603,740	9,124,081

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Eastern Operators Had Busy Half Year; Increased Work

The old Eastern, or Pennsylvania Grade, fields of New York, Pennsylvania, southeastern Ohio and West Virginia had a busy half year exceeding the record of completions of the first half of last year by 234, and completing larger oil and gas wells, on the average, than in the first six months of 1935.

Some of the wells drilled in the Allegany and Bradford fields are pressure, or water-intake, wells but they are all a part of the system of developing those prolific fields, which jointly reached a production close to 50,000 bbls. per day this year any time they were called upon to supply that quantity of crude.

The old southeastern Ohio fields broke forth now and then with wells of more than 100 bbls. per day initial production, while West Virginia field work was featured by the development of the deep Oriskany gas sand which operators, especially gas companies, are testing out regardless of expense.

PENNSYLVANIA GRADE FIELDS

Summary of Completed Work First Half 1936

Field—	Comp.	Prod.	Dry	Gas
Bradford	733	808	1	0
Allegany	282	338	0	0
Venango-Clarion	74	150	2	3
Butler-Armstrong	24	24	5	2
Southwest Penna.	52	465	12	26
S. E. Ohio	182	2,293	42	40
West Virginia	251	329	39	162
Total 6 months	1,598	4,407	101	233

Completions by Months

	Comp.	Prod.	Dry	Gas
January	202	548	17	29
February	178	941	8	30
March	190	576	10	37
April	256	609	20	50
May	339	999	15	34
June	433	734	31	53
Total 6 months	1,598	4,407	101	233
Same period 1935	1,364	2,749	124	211
Difference	234	1,658	23	22

Decrease of Road Oil Sales 7 Per Cent

Sales of road oil by petroleum refineries in the United States decreased 7 per cent in quantity—from 7,702,753 bbls. in 1934 to 7,164,732 bbls. in 1935, according to statistics compiled by the Bureau of Mines. However, if the sales of road oil are taken in connection with sales of cut-back asphalts, paving flux and emulsified asphalts, a slight gain was registered in the total sales of liquid and semiliquid asphalts for highway construction, from 12,702,692 bbls. in 1934 to 12,747,069 bbls. in 1935. The decrease in sales of road oil and the increase in sales of cut-back asphalts may represent either changes in specifications or changes in demand for definite products.

The principal decreases occurred in the Rocky Mountain district, in the Indiana - Illinois - Kentucky district, and in the Gulf Coast of Texas. A decrease of 378,949 bbls. in road oil sold by Rocky Mountain refineries was offset in part by an increase of 258,440 bbls. in sales of cut-back asphalts; and a decrease of 344,622 bbls. in sales of road oil in the Indiana-Illinois-Kentucky district by an increase of 204,743 bbls. of cut-back asphalts sold. On the other hand, a decrease of 104,919 bbls. in sales of road oil by refineries of the Texas Gulf Coast was paralleled by a decrease of 52,844 bbls. in sales of cut-back asphalt.

In contrast to the general decline, sales of road oil by refineries of the East Coast, of Louisiana and of California showed marked increases. An increase of 63,792 bbls. in road oil sales by East Coast refineries was paralleled by an increase of 94,996 bbls. in sales of cut-back asphalts; and an increase of 242,516 bbls. in sales of road oil by Louisiana refineries by an increase of 106,205 bbls. in sales of cut-back asphalt. In California an increase of 122,363 bbls. in sales of road oil was counterbalanced in part by a decrease of 171,314 bbls. in sales of cut-back asphalts.

Of the road oil sold in the United States in 1935, only 813,308 bbls., valued at $572,150 were made from foreign petroleum, imported from Venezuela and Mexico. Of the road oil made from foreign crude, 87.5 per cent was sold by refineries of the Atlantic seaboard in 1934 and 88.9 per cent in 1935; the remainder was made in Gulf Coast refineries of Louisiana and Texas.

Petroleum refineries in the United States reported the production of 6,030,491 bbls. of road oil in 1935 compared with 6,210,390 bbls. in 1934. The refinery output of road oil was augmented in 1935 by 1,399,656 bbls. of other petroleum products, chiefly fuel oil, transferred to road oil stocks, compared with 1,456,354 bbls. similarly transferred in 1934. Stocks of road oils and of transferred oils held at refineries increased from 663,847 bbls. on December 31, 1934 to 731,965 bbls. on December 31, 1935. Consumption of road oil at refineries in their own operations, transfers, losses, and adjustments took 197,297 bbls. during 1935, compared with 132,882 bbls. in 1934.

Prices of road oil showed marked local changes in 1935 compared with 1934. The average value of road oil sold by petroleum refineries in the United States declined from $1.39 per barrel in 1934 to $1.25 per barrel in 1935. In consequence, the value of road oil sold by petroleum refineries declined 16.5 per cent—from $10,741,998 in 1934 to $8,963,909 in 1935. Of the major producing districts, the principal declines were in California, from an average of $1.64 per barrel in 1934 to $1.11 in 1935; in the Oklahoma-Kansas-Missouri district, from $1.14 in 1934 to 91 cents in 1935; and in northern Louisiana and Arkansas from $1.00 in 1934 to 93 cents in 1935. On the contrary, the average sales value in the East Coast district rose from $1.48 in 1934 to $1.61 in 1935; in the Indiana-Illinois-Kentucky district, from $1.20 in 1934 to $1.25 in 1935; and the Rocky Mountain district from $1.40 in 1934 to $1.60 in 1935.

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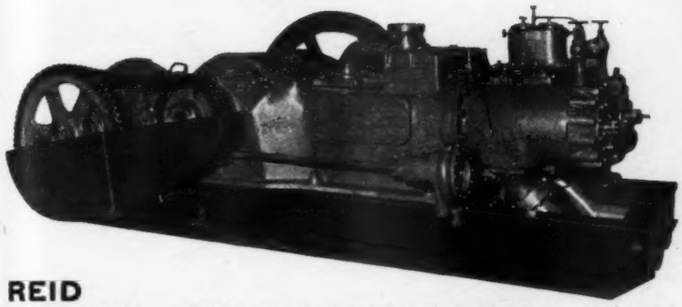

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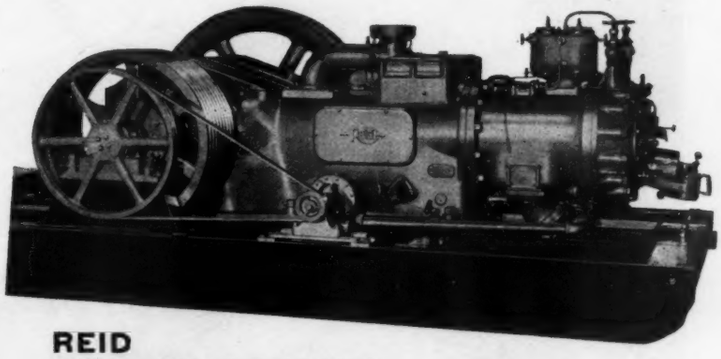

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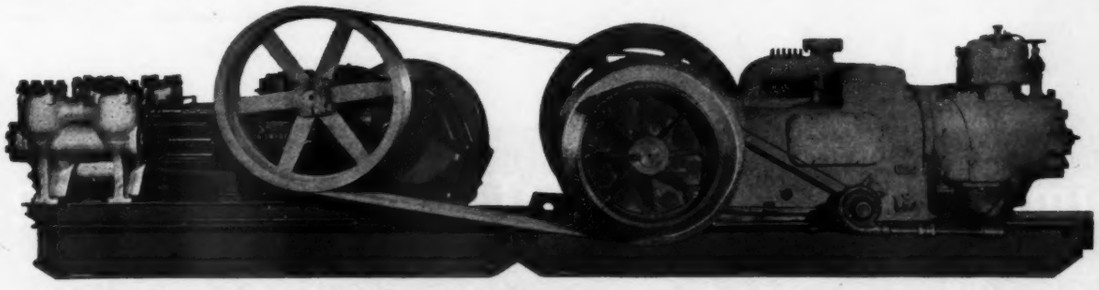

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Semi-Annual Review

MICHIGAN OPENS NO BIG OIL POOLS; MAKES A NEW GAS RECORD

By PAUL A. ELLIOTT

Despite the greatest drilling program the state has ever witnessed, as evidenced by the issuance of 396 state permits to drill compared with 286 during the corresponding period in 1935 when a new high total of 700 was set for the year, Michigan operators at the half year mark had failed to open a new major oil or gas field.

Extension of existing fields, particularly the Tri-Townships field of Millbrook, Hinton and Belvidere Townships, Mecosta and Montcalm Counties, virtually tripled the open flow capacity of the state's gas wells, or from 1,000,000,000 to about 3,000,000,000 feet daily. Known reserves also were considerably increased, though by a lesser percentage.

New refinery construction, laying of new oil and gas pipe lines, increasing prices of crude and other factors contributing to the success of the industry carried it to new heights from January 1 to July 1, 1936.

PRODUCTION BY MONTH

The monthly totals and daily averages for the first half of 1936 and 1935 compared as follows:

Month—	1935	Daily
January	1,037,220	33,458
February	1,034,017	36,930
March	1,118,586	36,930
April	1,200,663	40,022
May	1,256,159	40,521
June	1,366,367	42,689
Total	7,013,012	38,450

Month—	1936	Daily
January	1,248,550	40,276
February	1,058,505	36,502
March	1,115,257	35,977
April	1,025,850	34,195
May	1,059,961	34,192
June	1,014,714	33,824
Total	6,522,837	35,828

PRODUCTION BY POOL

A list of the fields and average daily production as reported on July 1, 1936, by the Michigan Oil Producers Committee is as follows:

Field—	Wells	Dly. av.
Porter	338	13,205
Yost-Jasper	43	5,090
Greendale-Chippewa	278	2,558
Vernon-Leaton-Denver	92	2,150
Geneva-Midland	2	95
Crystal-Montcalm	133	6,740
Home-Montcalm	8	217
Vickeryville-Montcalm	1	3
Beaverton	16	1,157
Ogemaw	125	20,86
Saginaw	71	72
Birch Run (Saginaw)	23	174
Muskegon-Oceana	110	243
Tuscola	1	0
Dundee-Monroe	1	24
Total	1,242	33,824

OPEN THREE MINOR FIELDS

Three new minor oil fields, as yet not developed to a point where they may appreciably affect the daily production, were opened and recognized as such.

The three newly recognized fields are in Geneva Township, Midland County, Wisner Township, Tuscola County, and Dundee Township, Monroe County. One other similarly small producing area, though really opened in the fall of 1935, was added to the monthly reports of the Michigan Oil Producers Committee, namely, the Vickeryville pool in Bushnell Township, Montcalm County, about 7 miles southwest of the Crystal-Montcalm pool, last major field, opened March 28, 1935.

When the half year period closed, there were still only two small upper Traverse wells producing in the Geneva-Midland pool and one each in the other four areas just mentioned, none of them making over 35 bbls. a day.

Despite the declining flow in the two largest fields, Porter Township, Midland County, and Crystal-Montcalm, increases in several lesser fields kept the production above 1,000,000 bbls. a month for a total of 6,522,837 in six months.

WILDCAT DISCOVERIES

The first wildcat strike of the year was made early in January by the Smith Petroleum Co., developers of the Birch Run, Saginaw field, when they struck a 10-bbl. natural well on the Boyce Farm Co. lease, NW NW NW section 24-14n-7e, Wisner Township, Tuscola County. Dundee was topped at 2,661 feet with shows at 2,686 to 2,810 feet. The well later swabbed 100 bbls. in 24 hours after acid treatment, but the production declined.

The second wildcat discovery was made about a week later by the Socony-Vacuum Oil Co. No. 1 Robert P. McCarberry, NW NE NW section 36-5s-5e, Macon Township, Lenawee County, which made about 25 bbls. initially in the Dundee at 2,200 feet. Casing trouble developed, however, and results are still uncertain.

A well which later proved disappointing made about 10 bbls. initially in the Berea at 2,462 feet in Mount Haley Township, Midland County. It was the Pine River Oil Co. No. 1 H. Sims, C NE SE section 4-13n-1e.

Two tests not yet recognized as opening a field struck oil in Gibson Township, Bay County. The first was M. C. Fordyce No. 1 Mike Suszko, SE SE NE section 11-18n-3e, which made 25 bbls. initially after topping Traverse limestone at 2,029 feet during January. The other was T. F. Caldwell, Inc., No. 1 Charles W. Kraus, SW SW NW section 12, same township, which was rated good for 40 bbls. a day in the upper Traverse from 2,028 to 2,045 feet.

Brehm and Hollman Oil Co. developed a new Traverse field in Geneva Township, Midland County, opening it in February with No. 1 Thomas E. McCann, NW NW SE section 20-15n-2w, a 200-bbl. initial producer at 3,104 feet. It was listed a pool with two producers making 115 bbls. daily during May.

T. T. Hawksworth also developed a new connection between the Vernon and Leaton pools with the No. 1 J. Varney, NW SE SW section 34-15n-3w, Denver Township, originally rated good for 600 bbls. daily in the Dundee topped at 3,546 feet and drilled to 3,613 feet.

The A. V. Oil & Gas Co. opened the new Dundee Township, Monroe County, field in the southeastern corner of the state bringing in the No. 1 Frank and Josie Roe test, SE SE SW section 19-6s-6e, for 10 bbls. an hour initially in the Trenton.

Wallace Markle No. 1 Frank Opaka, NE NE SE section 4-15n-11e, Grant Township, Huron County, proved a disappointment though it was reported good for 200 bbls. initially in the Dundee at 3,007 feet when drilled in about the middle of May. It later was plugged and abandoned.

FIELDS EXTENDED

The Beaverton, Crystal and Porter fields were extended from 1 to 2 miles by successful outposts drilled during the past six months.

M. F. Whitehill No. 1 Chris Welcher, SW NE SW section 2-17n-2w, made 18 bbls. an hour at 3,872 feet as the most important Beaverton Township, Gladwin County, extension.

Pure Oil Co. extended the Crystal pool about a mile southeast with the No. 1 Ernest Stedman, SW NW SE section 11-10n-5w, Crystal Township, Montcalm County, in January. Later Duck Lake Oil Co. brought in its No. 1 fee, NE NE SW section 11, same township, a mile south of the Durbin discovery well of the field and beneath the surface of Duck Lake. It was Michigan's first underwater producer as well as an important extension test. It started off at the rate of 2,000 bbls. a day but soon dropped to several hundred barrels. Crystal again was extended half a mile eastward by McClanahan Oil Co. No. 1 M. R. Honderich, NW NW NW section 1, a 500-bbl. natural initial producer.

Porter field was extended half a mile to the east by Rex Oil & Gas Co. No. 1 Lyons, SW SW NE section 23-13n-1w, Porter Township, Midland County, a 50-bbl. well in the Traverse at 2,900 feet.

GASSERS

Michigan's greatest development during the first six months, however, came in the new record gas wells brought in principally in Tri-Townships field.

Week after week for a period of nearly two months, the previous record for open flow capacity was broken by new wells drilling into the shallow Michigan Stray gas sands.

The result was Michigan's aggregate open flow capacity was tripled and two major pipe line systems were laid at a cost of more than $1,000,000 combined.

All previous records were broken the first week of the year when Taggart Brothers No. 21 Fee, section 4-14n-9w, Austin Township, Mecosta County, flowed at the rate of 50,000,000 feet a day.

This record stood until the latter part of May when Hyatt and Norton No. 1 Sutherland, C SE NE section 5-12n-7w, Belvidere Township, Montcalm County, set a new high of 54,000,000 feet a day within a few days after their own No. 1 Fouts, C SW NW section 3, Belvidere Township, made 53,500,000 feet.

Then came a single week in June when eight gassers established a new record for such a period with an aggregate open flow capacity of 314,000,000 feet. They included Fletcher and Leman No. 2 O. Eccles well, C NW SW section 2-12n-7w, Belvidere, which gauged 69,000,000 feet a day.

But even this record did not stand when a week later the Wolverine Natural Gas Co. brought in the No. 3 L. E. and Elsie Richardson well, SW SE section 3, Belvidere, making 77,250,000 feet daily, a record expected to stand for some time in Michigan. Michigan Stray sands were topped at 1,242 feet in this well which drilled through 37 feet of pay from 1,246 to 1,283 feet.

Pay sands ranging from 20 to 35 feet thick were discovered during the six months' period in the Tri-Townships field contributing to the large open flows and necessitating upward revision of estimates of gas reserves of the field.

Taggart Brothers also extended the Austin Township, Mecosta County field serving Muskegon through one of the state's four major gas lines when the Hal-Be-Oyle & Gas Co. No. 1 Paul Rennie was drilled into the Michigan sands for a daily flow of 15,000,000 feet located C SE SW section 33-15n-9w, Colfax Township, Mecosta County.

The state's 1935 natural gas consumption of 5,553,855,000 feet is expected to be doubled if not tripled by gas line extensions this year to Lansing, Grand Rapids from Michigan fields alone, to say nothing of the far greater consumption of Texas and Kansas gas to result from the $8,000,000 extension into Detroit.

An important phase of the industry to Michigan producers so far this year has been two crude price increases of 10 cents a bbl. raising the price for central Michigan crude to $1.42 a bbl., the highest in four years. This means the oil producers received about $8,700,000 for the half-year output compared with about $7,000,000 for the first half of 1935.

Semi-Annual Review

ALBERTA'S BIGGEST, DEEPEST WELL IS A 1936 DISCOVERY

By VICTOR LAURISTON

Available official figures covering all Canadian fields for the first four months of 1936 show for that period a nominal increase in New Brunswick crude production, a substantial increase in Ontario, and a marked decline in Alberta. The comparative totals for these provinces, in bbls., are as follows:

	Jan.-Apr. 1935	Jan.-Apr. 1936
New Brunswick	4,082	4,085
Ontario	49,230	53,311
Alberta	417,109	397,335
Totals	470,421	454,731

On the other hand, natural gas production for all Canadian fields in the first four months of 1936 shows an increase. The comparative figures, in thousands of feet, are as follows:

	1935 M.C.F.	1936 M.C.F.
January	3,561,990	3,499,092
February	2,585,258	4,011,882
March	2,665,692	2,838,626
April	2,281,805	2,297,181
Totals	11,094,746	12,646,781

Figures for the various Alberta pools, issued by the lands and mines department at Edmonton, are available for the first five months and are detailed as follows:

	Bbls.
Turner Valley naphtha	477,236
Turner Valley light crude	6,350
Red Coulee light crude (4 mo.)	6,241
Wainwright heavy crude	4,585
Skiff heavy crude	310

Figures for the Red Coulee field include a small production in February and March from Del Bonita.

TURNER VALLEY FIELD

The Turner Valley field continued, in the first half of 1936, the most active drilling area in Alberta. Drilling in the early part of the year followed the previous trend to the southeast. At the beginning of 1936 the southernmost producing well was Highwood-Sarcee Oils No. 1 in the NE corner, LSD 15, of section 21-18-2w5. Union-Freehold Oil Corp. No. 1, LSD 8, same section, proved the lime a half mile south but had a maximum natural production only around 25 to 35 bbls. 865 feet in the lime. It will likely be shot or acidized. Another half mile farther south, Highwood-Sarcee Oils No. 2, LSD 1 got the lime at 5,700 feet and is now drilling into production. While these wells have proven the formation and structure a mile to the southeast, recent drilling on this side of the field has in most instances yielded only small producers.

In section 28-18-2w5, some drilling was, however, done west of the defined crest of the structure. British Dominion Oil & Development Corp. No. 4, LSD 6 got around 100 bbls. a day naphtha recovery from the upper lime and is deepening below 6,400 feet.

ALBERTA'S LARGEST WELL

Participation of the British-American Oil Co. in South Turner Valley development resulted in the resumption of Turner Valley Royalties No. 1, LSD 13, section 28-18-2w5. Located far to the west, this test had been shut down and practically abandoned when the log indicated exceptionally deep drilling. After resumption, it went to 6,396 feet to get the Madison, but at 6,824 feet it finished a flowing well which, since the middle of June, has averaged between 800 and 900 bbls. a day. The production is light crude, slightly below 45 gravity, and there is very little gas. Tubing is expected to increase the flow.

Turney Valley Royalties No. 1 is the deepest producing well in the British Empire and the largest oil producer ever drilled in western Canada. It tends to confirm the theory that the wet gas and naphtha encountered in earlier Turner Valley wells is derived from large deposits of heavier crude far down the west flank of the structure. The result of the strike has been a marked impetus to "west side" drilling; a number of inactive tests in sections 21 and 28 are resuming, and new tests are being started. The drilling of the next six months will either disprove the theory or develop a large crude oil field.

ALBERTA FOOTHILLS

Drilling has been exceptionally active in isolated Alberta foothills areas from the Hunter Valley structure, west of Olds, to the international boundary. The only definite results secured were in the Jumping Pound area west of Calgary, where Northwest Co., subsidiary of Imperial Oil, Ltd., endeavored to develop a shallow oil field on the strength of indications encountered in a deep test several years ago. Two tests in section 31-24-4w5 both failed to get commercial production; and no further work will likely be done.

DRILLING IN ONTARIO

In Ontario the most important new development was the gas field in the southern part of Oxford County near Brownsville. The discovery well was drilled last fall by the Aloka Oil & Gas Co. in Lot 23, Concession 12, Dereham Township. It got a small production from the Salina formation around 900 feet, the gas having a slight sulfur content.

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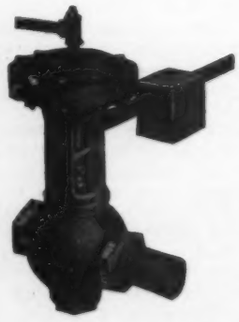

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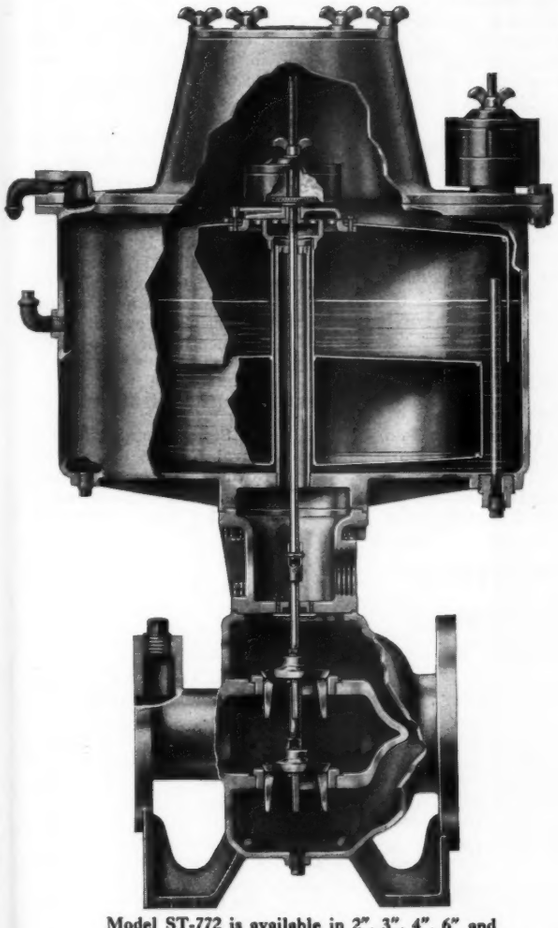

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Semi-Annual Review

FIELD EXTENSIONS, NEW PAY SANDS FEATURE SOUTHWEST TEXAS

By GEORGE WEBER

Drilling schedules of record proportions for Southwest Texas were carried out during the first six months of 1936 to open nearly 400,000 bbls. of initial daily potential production in that section. The completion of 1,395 wells, more than twice the number drilled during the corresponding period of 1935, resulted in the opening of potential production four times the volume of the 1935 figure.

The greatest percentage of drilling was in proven territory. Of 1,395 tests, 77 per cent were oil producers; compared with 51 per cent, the 1935 average in the same period.

Wildcatting, while constituting a lesser percentage of total operations than formerly, continued strong, contributing to the opening of additional territory.

FIELD EXTENSIONS IMPORTANT

By far the greatest new production in the first half of 1936 was opened by extension and discovery of new horizons in existing fields. In this class, Lopez, North Pettus, Pearsall, Plymouth, Samfordyce, Saxet, Saxet Heights and Seven Sisters stand out particularly. Loma Novia, which saw the most active drilling of any field during the first half of the year, received at the same time, little extension; the greatest part of the activity being on inside proven locations.

SAXET'S NEW OIL ZONES

The finding of additional producing sands in the Saxet field, Nueces County, has been responsible for a considerable revival of drilling throughout the area. The 4,400-foot sand, which was opened in the vicinity of Clarkwood in 1935 has been extensively explored, with the completion of nearly 30 oil wells. Clarkwood Townsite itself has already been drilled up, and operations in this sand have reached in all directions from it, particularly to the east and northeast, where the sand has been opened to production for more than a mile.

The 4,800-foot pay has also seen considerable development, producing nearly 20 new wells since the first of the year. Wells bottomed at this level are grouped over an extensive area in the center of the field.

MAJOR DISCOVERY

What appears to be the most productive horizon yet opened in this field was discovered in April. A. F. Holliday's No. 1 Griffith, a workover of an old gasser, was deepened to a sand at 5,816-44 feet and completed for 512 bbls. per day. This began an intensive drilling campaign, and by the end of June, 11 producing wells had been completed in the new sand. An appreciable percentage of these were workovers of former dry holes and gassers in the upper sands of the field. The pay is in the Frio horizon, the first sand of that age to produce in the Saxet field; others lying in the Middle Oligicene formation.

Frio sands are producing in Plymouth and parts of Refugio. The sand in Saxet shows good body, and appears to blanket a wide area. The discovery well is located about 2 miles north of Clarkwood, and production has been proven more than a mile southwest and nearly a mile north of discovery.

SAXET HEIGHTS STILL ACTIVE

The Saxet Heights or Corpus Christi field, fell off somewhat, but still maintains many rigs drilling. Important extensions were opened on the north, east and northwest, and the field was definitely limited on the south and southwest. The best production is now being opened in the eastern section where wells with low gas-oil ratios and relatively high potentials are completed. Generally speaking, the field has not justified the intensive drilling, occasioned by the large number of land owners and operators. Gas-oil ratios, especially in the west portion are high, and although a thick gas sand is present, the oil sand is thin. The field allowable has been reduced periodically because of these conditions, and the present allowable of 28 barrels plus 3.3 barrels per acre hardly warrants the close drilling which has prevailed in the field.

PLYMOUTH EXTENDED

The Plymouth field in San Patricio County was extended continuously to the south and southeast. Thirty-nine producers were completed during the half year bringing the production of the field to a point where it is one of the most important in the Lower Gulf Coast.

LOPEZ POTENTIALLY LARGE

When the two-mile southward extension was made in the Lopez field, Webb County, late in 1935, the center of activity swung to the south and west portions of the field, leaving the north and eastward sections comparatively unexplored for a time. Attention has been forcibly attracted to this area, however, by the results of three tests recently completed. The Luling Oil & Gas Co. began the development about a mile north of production in the field. In its No. 1 Peal, the company found Mirando sand, producing horizon of the field, at 2,077 to 2,090 ft., the highest well in the field. It was completed in April as a gasser.

This test indicated the extension of the field structure beyond the test to the north and east, an area as yet unexplored to any appreciable extent.

The next test in this section was drilled by Magnolia Petroleum Co. nearly one-half mile due east of the Luling gasser. It was completed for an oil producer, further supporting the opinion that Lopez will extend a considerable distance farther into Duval County.

SEVEN SISTERS EXPANSIONS

While the Seven Sisters field in northern Duval County was second to Loma Novia, in the same county, in drilling operations, development of outside production greatly exceeded

SOUTHWEST TEXAS
(San Antonio District)

Daily Average and Monthly Production in First Six Months of 1936

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BRUNER:							
Daily average	4,110	3,948	4,050	3,951	3,868	3,798	
Month	127,413	114,494	125,556	118,532	119,904	113,942	719,841
BYERSVILLE:							
Daily average	282	240	265	315	315	307	
Month	8,746	6,968	8,211	9,453	9,767	9,213	52,352
CHAPMAN:							
Daily average	368	371	348	308	315	329	
Month	11,411	10,756	10,782	9,236	9,768	9,874	61,827
DALE:							
Daily average	167	159	153	152	149	254	
Month	5,174	4,613	4,747	4,566	4,614	7,615	31,329
DARST CREEK:							
Daily average	9,131	9,129	9,179	9,254	9,361	9,335	
Month	283,064	264,738	284,545	277,614	290,196	280,056	1,680,213
DOBROWOLSKI:							
Daily average	277	277	277	262	249	245	
Month	8,584	8,037	8,589	7,867	7,714	7,344	48,135
HILBIG:							
Daily average	722	722	744	791	791	712	
Month	22,385	20,934	23,067	23,722	24,526	21,368	136,002
LONE OAK:							
Daily average	.....	.....	.....	1	.....	.....	
Month	.....	.....	.....	29	.....	.....	29
LULING:							
Daily average	5,595	5,466	5,487	5,673	5,685	5,600	
Month	173,138	158,516	170,093	170,192	176,231	168,001	1,016,171
LYTTON SPRINGS:							
Daily average	374	374	373	359	363	342	
Month	11,591	10,842	11,561	10,768	11,257	10,259	66,278
MINERVA:							
Daily average	217	214	213	223	213	225	
Month	6,724	6,209	6,607	6,686	6,606	6,747	39,579
OGDEN:							
Daily average	192	192	188	192	192	185	
Month	5,955	5,565	5,824	5,765	5,950	5,554	34,613
PEARSALL:							
Daily average	280	280	661	733	1,300	1,564	
Month	8,677	8,124	20,496	21,985	40,302	46,916	146,500
SOMERSET:							
Daily average	670	670	699	717	680	679	
Month	20,773	19,426	21,664	21,516	21,082	20,375	124,836
VON ORMY:							
Daily average	70	82	86	94	94	89	
Month	2,173	2,376	2,668	2,813	2,918	2,664	15,612
MISCELLANEOUS:							
Daily average	569	539	538	484	498	537	
Month	17,627	15,634	16,681	14,525	15,428	16,102	95,997
Daily average	23,014	22,663	23,261	23,508	24,073	24,201	
Total first six months 1936	713,434	657,227	721,091	705,240	764,263	726,030	4,269,285
Total first six months 1935	709,962	648,564	728,469	714,750	717,866	709,410	4,229,021

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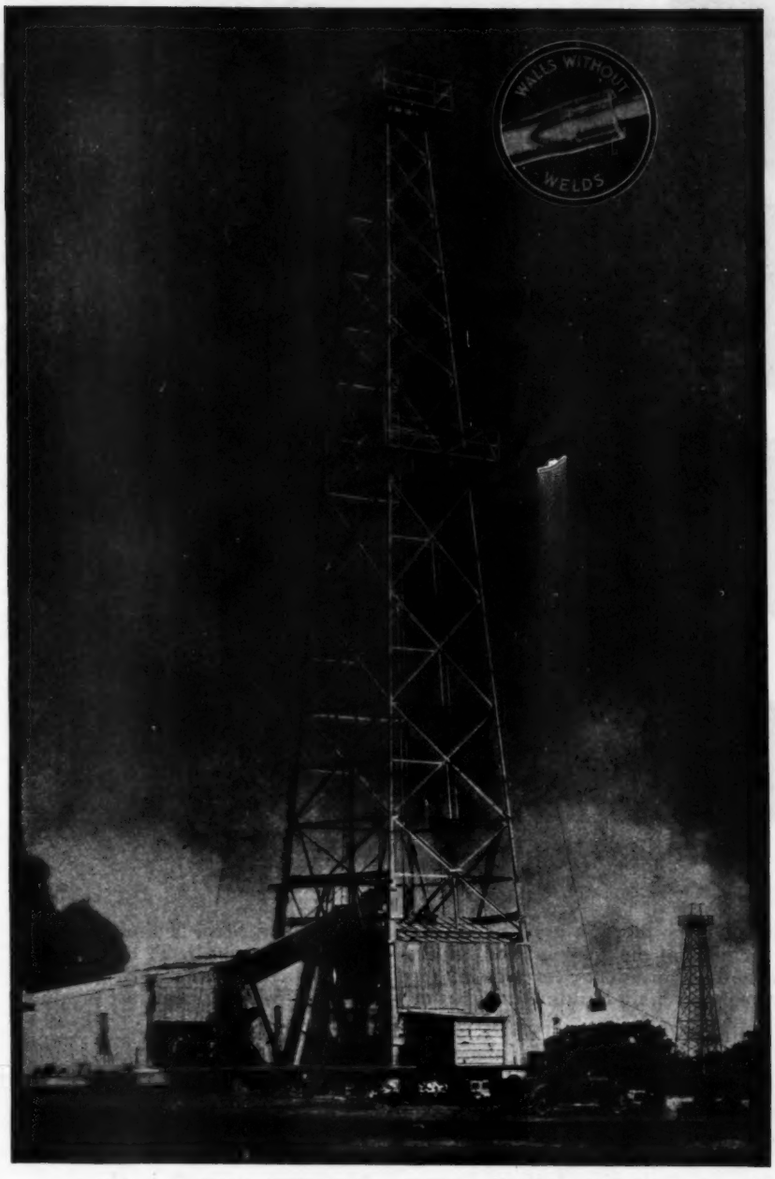

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that of Loma Novia. Operators extended production in Seven Sisters to the east, north and west, in order of their magnitude. The early part of the year saw the opening of a new sand and a mile and half eastward extension to the field. Westheimer & Daube's No. 2 Z. Campos, located in the northeast quarter of section 224 found the Government Wells sands unproductive, and subsequently opened production in the Loma Novia sand, the first production found in this sand in Seven Sisters. Further development on the east edge has been restricted to the drilling of wells in the Government Wells sands between the eastern discovery and the field proper.

In March, Humble Oil & Refining Co. opened production about 1 mile north of the field. Proven acreage created as a result of outpost drilling now includes the larger part of section 381, and those portions of section 102 lying southwest of the field.

LARGE CHALK PRODUCTION

In the Fault Line zone, the greatest development of the first half of 1936 was made in the Pearsall field of Frio County. Here the Amerada Petroleum Corp. opened the Austin Chalk to production. The Amerada-Rycade No. 1 Michael was completed the first week in the year flowing at the rate of 2,640 bbls. per day through open tubing. Subsequent drilling by these companies, which hold a block of more than 85,000 acres, resulted in the extension of the Austin Chalk production for more than 2 miles to the south and west. The field came into greatest prominence in March, when the same operators' No. 6 Halff & Oppenheimer was completed for an initial production of 22,000 bbbls. per day from Austin Chalk. This well, like many other chalk producers has required reworking to continue production. At present, the Pearsall field, with proven production from three different horizons; the Navarro sand, Austin Chalk and Buda lime, extends more than eight miles in length.

SAMFORDYCE FIELD

Drilling in the Samfordyce field, largest in the Lower Rio Grande Valley has been centered in the northwest section, across the Hidalgo County line into Starr County. The most important recent discovery, however, was the opening of a second sand. G. W. Wheeler's No. 2 Felipe Farias heirs, a north edge test was completed in June, producing from sand at 2,828-53 feet at a rate of about 200 bbls. per hour.

The finding of a new producing horizon in the North Pettus area stimulated activity in that section, with the result that several good producers have been completed. The discovery well of the new sand, Diamond Half Oil Co.'s No. 1 Gillette was completed in sand at 3,694-3,704 feet. The new production is named the Gillette or Diamond Half pool by some, but is generally classed with the North Pettus field.

NEW STRIKES FEW

Ten new strikes were made in rank wildcat territory during the six months; four having been gas discoveries. Of the total, including both oil and gas strikes, only one, the Hoffman field of Duval County has seen appreciable development.

The first discovery of the year was the opening of gas production in Starr County, Lower Rio Grande Valley. John Clopton's No. 3 Roos & Bennett encountered high pressure gas sands at 2,461-2,608 ft. The test blew out and ran wild for a short time before being successfully closed in. Operators drilled deeper in search of oil production, without success, and the test was completed as a gasser and shut in.

Another gas strike followed in Nueces County when Sherman Nelson's No. 1 Buckholt, located about 1½ miles southeast of the Saxet field was completed for a large gasser making some oil. The producing sand was cored at 3,155-3,176 ft.

HOFFMAN OIL DISCOVERY

The Hoffman gas area of Duval County was opened for oil production by Rogers & Rogers when No. 1 Sutherland was completed in the Loma Novia sand at 2,863-2,885 feet. This discovery, followed closely by another of the same operators' about 1 mile to the south began a run of activity which has resulted in the drilling of 18 oil producers and 5 gassers, bringing the total daily potential production to nearly 6,000 bbls.

At the same time in Duval County, another discovery was made in the Loma Novia sand. Santa Clara Oil Co.'s No. 1-A Welder in Survey 103, east of the Loma Novia field was completed at 2,918-20 feet for a fair producer. Shell Petroleum Corp. drilled a dry hole offsetting the discovery well on the south.

LOWER COASTAL OPERATIONS

Wildcatting in the Lower Gulf Coast brought results in Brooks, Aransas and Jim Wells counties late in the spring. Drilling on the Alta Verde prospect, Dick Young completed the first oil producer in that area from sand at 915 to 919 feet. The discovery well, No. 1 Singer has been followed with three other tests, one of which was dry, one a gasser and the third an oil producer.

The Bentonville field in Eastern Jim Wells County was discovered by the Texon Drilling Co. and Lucey Petroleum Co. as their No. 1 Coopwood was brought in for a good producer in sand at 5,380-90 ft. The new field is located west of Agua Dulce and southwest of the King field. Since its discovery in late April, several tests have moved on locations in the area. One, a northwest diagonal offset missed the sand and was completed in a shallower sand as a gasser. A northeast diagonal offset also failed to date to make a producer in the sand of the No. 1 Coopwood. One producer was completed to the southwest, and several other active tests are exploring in surrounding leases.

A new gas field, named the Rhode, was brought into production in May.

SOUTHWEST TEXAS (Continued)

(Laredo District)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
ALBERCASS:							
Daily average	100	97	102	98	86	89	
Month	3,103	2,815	3,165	2,941	2,663	2,671	17,358
AVIATOR:							
Daily average	428	404	416	432	418	421	
Month	13,265	11,719	12,899	12,962	12,954	12,629	76,428
COLE:							
Daily average	5,979	6,041	6,045	6,177	6,241	5,254	
Month	185,344	175,185	187,392	185,306	193,467	157,624	1,084,318
COMITAS:							
Daily average	76	62	67	54	85	432	
Month	2,353	1,796	2,074	1,625	2,633	12,956	23,437
CUEVITAS:							
Daily average	371	440	401	409	411	403	
Month	11,504	12,762	12,434	12,265	12,743	12,095	73,803
DRISCOLL:							
Daily average	315	346	389	384	358	339	
Month	9,762	10,031	12,054	11,526	11,095	10,165	64,633
EAGLE HILL:							
Daily average	435	396	412	313	381	356	
Month	13,488	11,487	12,777	9,384	11,814	10,686	69,636
ESCOBAS:							
Daily average	1,780	1,861	1,923	1,916	1,897	1,853	
Month	55,183	53,964	59,617	57,487	58,804	55,584	340,639
GOVERNMENT WELLS:							
Daily average	16,786	16,628	16,558	17,038	16,743	16,534	
Month	520,363	482,217	513,294	511,133	519,036	496,027	3,042,070
H. F. RERTER (Kohler):							
Daily average	104	91	100	93	92	94	
Month	3,227	2,638	3,102	2,781	2,855	2,829	17,432
HOFFMAN:							
Daily average	89	132	132	240	506	1,062	
Month	2,756	3,829	4,090	7,209	15,683	31,852	65,419
JACOB:							
Daily average	539	472	596	597	570	434	
Month	16,706	13,683	18,473	17,911	17,674	13,011	97,458
LOMA ALTA:							
Daily average	70	62	84	96	62	76	
Month	2,173	1,794	2,601	2,882	1,920	2,279	13,649
LOMA NOVIA:							
Daily average	6,885	8,309	10,412	12,271	14,072	14,535	
Month	213,438	240,966	322,775	368,128	436,234	436,052	2,017,593
LOPEZ:							
Daily average	1,084	1,609	2,396	3,044	3,334	3,419	
Month	33,601	46,665	74,274	91,317	103,351	102,573	451,781
LOS OLMOS:							
Daily average	154	142	140	143	160	163	
Month	4,771	4,114	4,342	4,293	4,963	4,888	27,371
McMULLEN:							
Daily average	146	144	143	162	178	175	
Month	4,529	4,173	4,435	4,864	5,519	5,247	28,767
MERCEDES:							
Daily average	243	244	153	160	158	154	
Month	7,530	7,079	4,747	4,796	4,897	4,624	33,673
MOCA:							
Daily average	647	632	591	431	292	295	
Month	20,054	18,326	18,326	12,625	9,055	8,855	87,241
PIEDRAS LUMBRAS:							
Daily average	79	90	203	388	529	731	
Month	2,446	2,613	6,298	11,634	16,395	21,936	61,322
RANDADO:							
Daily average	328	325	369	358	338	369	
Month	10,171	9,422	11,434	10,747	10,474	11,064	63,312
RIO GRANDE CITY:							
Daily average	260	214	214	199	185	186	
Month	8,063	6,204	6,631	5,963	5,739	5,587	38,187
SAMFORDYCE:							
Daily average	4,084	4,218	5,142	5,398	5,719	5,683	
Month	126,607	122,326	159,406	161,932	177,286	170,498	918,055
SARNOSA:							
Daily average	878	883	967	967	922	925	
Month	21,215	25,603	29,973	29,019	28,585	27,742	168,137
SCHOTT:							
Daily average	356	350	362	375	365	387	
Month	11,039	10,156	11,221	11,251	11,319	11,605	66,591
SEVEN SISTERS:							
Daily average	1,676	2,352	3,312	4,350	5,496	5,534	
Month	51,953	68,202	102,670	130,491	170,373	166,029	689,718
MISCELLANEOUS:							
Daily average	226	268	335	243	189	180	
Month	7,014	7,779	10,380	7,278	5,866	5,412	43,729
Daily average	44,118	46,812	51,964	56,325	59,787	60,084	53,196
Total first six months 1936	1,367,658	1,357,548	1,610,884	1,689,750	1,853,397	1,802,520	9,681,757
Total first six months 1935	949,747	862,176	1,029,603	1,047,030	1,091,634	1,062,030	6,042,220
TOTAL SOUTHWEST TEXAS:							
Total first six months 1936	2,081,092	2,014,775	2,331,975	2,394,990	2,599,660	2,528,550	13,951,042
Total first six months 1935	1,659,709	1,510,740	1,758,072	1,761,780	1,809,500	1,771,440	10,271,241

The discovery well, Magnolia Petroleum Co. No. 2 Kincaid was completed as a second attempt to find production in that area. This McMullen County gas field has since been extended.

SOUTHWEST TEXAS

Summary of Wells Completed First Half of 1936

Completions by Months

Month—	Comp.	Prod.	Abd.	Gas
January	152	36,912	30	3
February	176	52,395	39	6
March	276	160,840	56	6
April	254	59,330	46	12
May	290	85,815	49	12
June	247	56,270	48	8
Total	1,395	391,562	268	47

Completions by Fields

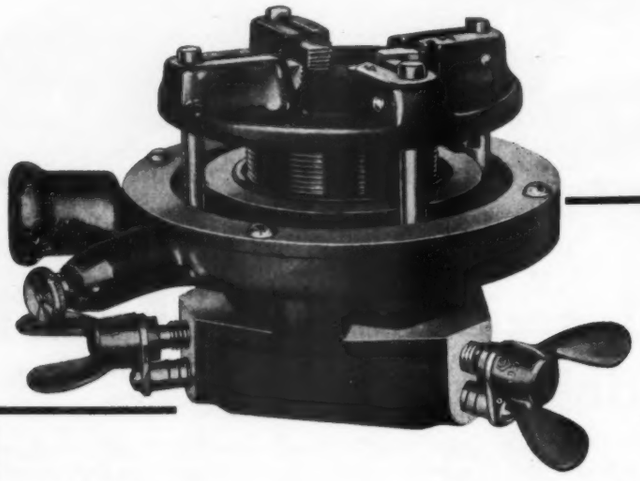
Field—	Comp.	Prod.	Abd.	Gas
Agua Dulce	1	0	0	1
Alta Verde	4	100	1	1
Armagosa	1	0	0	1
Aviator	1	50	0	0
Baldwin	3	670	2	0
Bateman	1	50	0	0
Bentonville	2	430	0	0
Blas Uribe	2	0	2	0
Branyon	2	630	0	0
Caesar	5	250	2	0
Calliham	11	263	4	0
Carolina-Texas	2	10	1	0
Charamousca	1	0	1	0
Clara Driscoll	2	0	1	1
Clark	2	150	0	0
Cole	7	250	3	2
Dale	3	200	2	0
Dirks	29	11,780	1	0
Driscoll	1	100	0	0
Eckert	1	10	0	0
Escobas	17	405	4	0
Fort Merrill	1	240	0	0
Govt. Wells	12	440	2	3
Guerra	2	240	1	0
Hagist	2	0	2	0
Haynes	20	630	2	0
Hoffman	29	5,730	6	5
Holzmark	1	0	1	0
Hondo	1	0	1	0
Hords Creek	1	0	1	0
Jacob	7	470	2	0
King	1	0	1	0
Kohler	2	0	1	1
Labbe	1	0	0	1
Loma Alta	1	0	1	0
Loma Novia	320	114,775	4	4
Loma Vista	3	100	2	0
Lopez	106	42,380	3	7
Lucas	2	0	2	0
Margo	3	0	3	0
McNeill	1	0	1	0
Mercedes	3	842	1	0
N. Pettus	19	2,765	2	1
O'Hern	62	14,005	7	3
Pearsall	10	37,480	0	0
Peters	1	360	0	0
Pettus	3	280	0	1
Piedra Lumbre	20	3,720	1	2
Piedras Pintas	2	0	2	0
Plummer	2	0	2	0
Plymouth	41	9,445	5	0
Ray	5	200	4	0
Rhode	3	0	1	2
Rio Grande City	5	125	4	0
Salt Flat	3	120	0	0
Samfordyce	51	3,925	5	3
Sandia	1	0	1	0
San Diego	1	0	0	1
Sarnosa	1	0	1	0
Saxet	70	23,030	5	0
Saxet Heights	121	32,510	5	2
Seven Sisters	187	79,524	12	2
Taft	8	2,180	2	0
Von Ormy	5	10	0	0
Voss	1	240	0	0
Walton	1	50	0	0
Zobrowiski	3	398	0	1
Miscellaneous	149	0	147	2
First half 1936	1,395	391,562	268	47
First half 1935	645	87,474	273	43
Difference	750	304,088	5	4

Two new oil strikes were made late in June, one in the vicinity of the North Kohler gas field in Duval County, and the other southwest of the Ray field in Bee County. The first field, opened by Mills Bennett Production Co.'s No. 2 Peters is producing from sand at 2,619-33 feet. Activity of several operators in this area promises rapid development of the new field, named the Peters field.

The Bee County discovery, which was given the name Voss field, was opened by R. B. Swiger's No. 1 Voss. It lies in the trend of the West Tuleta and Ray fields, and is producing from the Pettus sand, regular pay horizon of Bee County fields. An immediate west offset was started, and at the end of the month, was reported running low.

From the standpoint of volume of new production brought in, the Loma Novia field outstrips by far any other producing area in Southwest Texas in 1936. Operations in this field, however, were restricted practically 100 per cent to inside drilling. More than 320 new producers were added to the field total, opening 114,000 barrels of potential production, of which but a small fraction is allowable production. The close of the six months period saw a decline in operations of Loma Novia drillers. Much of this decrease is due to the completion of drilling programs on several inside leases, and some may be ascribed to seasonal slackening and continued allowable cuts.

R. Prochaska, in the land department of the Skelly Oil Company, has been transferred from Medford, Okla., to Midland, Tex.



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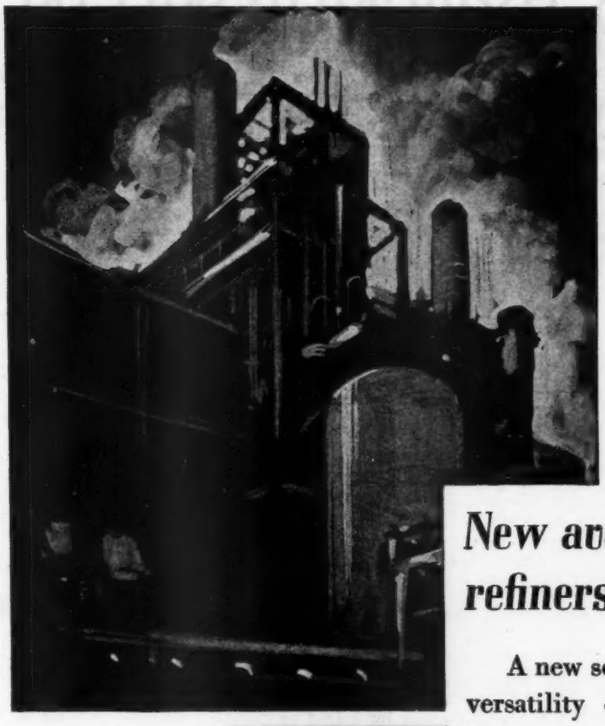

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Semi-Annual Review

DISCOVERIES AND EXTENSIONS IN ALL ROCKY MOUNTAIN OIL STATES

By T. R. INGRAM

Development work in the Rocky Mountain states in the first half of the year resulted in new pools and extensions in Lea County, New Mexico; one new pool was opened in Colorado; discoveries in fault blocks and pool extensions were made in Wyoming, and one discovery was made in eastern Montana and the Cut Bank field extended. Utah failed to develop a field, and five tests in that state were abandoned.

NEW MEXICO

New Mexico developments again centered in the southeastern part of the state with Lea County showing one of its most active drilling periods. As a result, 227 units of 40 acres each were brought into production in the Hobbs, Cooper, Eunice, Jal, Lea and Monument pools. On July 1, 1936, there were 776 units, or 31,040 acres, producing in the areas named. The principal activity was in the Eunice area, where the number of units increased from 34 to 242, a gain during the six months of 108 units. Monument came second with an increase from 30 to 131 units, a gain of 101 units. Hobbs increased only eight units, the wells drilled being around the edge on the northeast and northwest and finally locating the limits of production on the northwest. The Cooper area continues to show considerable water and had an increase of only two units, while Lea remained the same and Jal had an increase of eight, mostly wildcats and semiwildcats.

The most important development outside of the proven fields was a series of discoveries east of the Cooper and Jal areas in sand, as against lime production farther to the west, and the opening of a territory about 16 miles long for development.

EUNICE

Drilling in the Eunice pool extended the producing area in all directions. A dozen wells drilled on the west side pushed out the pool from one location to half a mile, the farthest west being the C SE SE section 13-21-35 and C NE NE section 14-21-35. On the east the field was extended 2 miles. The well which marks the limits of drilling in that direction is the Gulf Oil Corp. No. 1 Frona Leck, C NW NE section 14-21-36. It was completed in lime at 3,875 feet in June and flowed 3 bbls. per hour through the 2-inch tubing at 3,868 feet with 852,000 feet of gas before acidizing and 23 bbls. first hour and 223 bbls. first 14 hours with 1,475,000 feet of gas after acidizing. Top of the pay was at 3,760 feet and the elevation 3,578 feet. On the south production was extended about a mile, the farthest in that direction being the Gulf Oil Corp. No. 1 South Janda, C NW SE section 32-21-36, which flowed 396 bbls. in 10 hours through the tubing at 3,909 feet, total depth. Elevation is 3,604 feet. This apparently is close to the edge.

EAST OF EUNICE

In April the Barnsdall Corp. completed No. 1 Hardy, C SE NE section 29-21-37, 2 miles southeast of the Gulf No. 1 Mattern, a gas well completed a number of years ago, and 6 miles east of the Eunice field proper. Total depth was 3,800 feet and elevation 3,470 feet. Two months later Sun Oil Co. No. 1 Weatherly, C NE SW section 17-21-37, 2 miles to the northwest, was completed in lime at 3,815 feet for 126 bbls. per day after acidizing with 4,000 gallons. The top of the pay was at 3,703 feet and the elevation 3,486 feet. Late in June two more wells in this area were completed. The Gulf Oil Corp. No. 1 King, C SW NW section 28-21-37, an east offset to the Barnsdall well, flowed 75 bbls. in 12 hours through the tubing at 3,804 feet with 995,000 feet of gas and with packer set at 3,688 feet. The Ohio Oil Co. next completed a 70-bbl. well in its No. 1 Turner, C NE SE section 29, an offset to the other wells.

SOUTH EUNICE

In the area to the south of the Eunice pool, in April, the Gulf Oil Corp. No. 1 Christmas, C SE SE section 27-22-36, 2½ miles south of the Ohio Oil Co.'s discovery in 1935, and 1½ miles east of the Continental No. 1 Meyer, an old gas well, was completed at 3,625 feet after plugging back from 4,310 feet, for 27,450,000 feet of gas. The elevation is 3,521 feet. Several relatively small oil wells were completed in this area.

Six miles to the east of the South Eunice development and only 2 to 3 miles west of the Texas line, five producers were drilled following a wildcat discovery in March by Skelly Oil Co., No. 1 Baker, C SE SW section 22-22-37. It was completed in lime at 3,590 feet for 125 bbls. in 14 hours through a 24/64-inch choke on the 2½-inch tubing at 3,532 feet. The main pay was at 3,522-47 feet and the elevation 3,348 feet. The other wells were fair or relatively producers

MONUMENT AREA

During the first half of 1935 the drilling of offsets out from the first two wells in the Monument pool brought the total number of units into production by July 1 up to 131, an increase during the period of 101 wells. The area of the pool on July 1, 1936, extended 4 miles from the south line of forties in sections 13-18-36 and 18-19-36 to the south half of section 12-20-36, with the width about the same. Offsetting out from the two discoveries has not yet reached all of the intervening territory, there remaining about 40 locations to be drilled.

On the south, in the direction of the Eunice pool, two producers were completed which indicated the possibilities of the Monument and Eunice pools being connected. The Gulf Oil Corp. No. 1 Reeves, C NW SW section 29-20-37, a little more than a mile to the north of the nearest Eunice well and 3 miles south of the nearest Monument well, was showing for 77 bbls. a day at 3,846 feet after Repollo Oil Co. No. 1 Roach, NW cor. section 21-20-37, 2 miles to the northeast of the Gulf well and 2 miles southeast from the nearest Monument producer, flowed 429 bbls. of oil in five and one-half hours through a 1-inch choke on the 2½-inch tubing after acidizing with 5,000 gallons. The saturated lime was at 3,831-36 and 3,841-47 feet and the elevation is 3,530 feet.

HOBBS AREA

Drilling in the Hobbs pool was very limited during the first half of 1936 and was confined to the feeling for the edges of the field on the northeast and northwest flanks.

COOPER AREA

Drilling operations were almost at a standstill in the Cooper pool during the six months. A wildcat play running parallel to and about 5 miles to the east and northeast of the Cooper pool was one of the significant developments and indicates another high of considerable importance. Early in March three wells were completed in sections 4, 6 and 17-23-37. The Skelly Oil Co. No. 1 King, C NE SW section 6-23-37, was abandoned at 3,917 feet with 1,500 feet of sulfur water encountered at 3,915 feet. Two and one-half miles to the east, Skelly No. 1 Simms, C SW

NEW MEXICO

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
HOGBACK:							
Daily average	198	211	207	201	188	203	
Month	6,148	6,126	6,421	6,042	5,816	6,100	36,653
RATTLESNAKE:							
Daily average	632	562	591	571	679	704	
Month	19,583	16,296	18,316	17,136	21,057	21,130	113,518
TABLE MESA:							
Daily average	73	77	85	136	13	91	
Month	2,262	2,247	2,635	4,070	413	2,730	14,357
AZTEC-BLOOMFIELD: (Est.)							
Daily average	3	8	8	8	7	8	
Month	270	229	245	250	225	250	1,469
ARTESIA AREA:							
Daily average	2,293	2,449	2,573	2,786	3,186	3,640	
Month	71,083	71,020	79,749	83,585	98,771	109,188	513,396
HOBBS:							
Daily average	26,351	26,512	27,527	26,513	26,594	24,161	
Month	816,868	768,855	853,348	795,392	824,406	724,840	4,784,709
JAL:							
Daily average	3,392	3,274	3,111	3,028	3,110	3,101	
Month	105,160	94,932	96,429	90,835	96,419	93,040	576,815
EUNICE:							
Daily average	14,850	16,210	17,933	18,821	20,803	21,030	
Month	460,352	470,079	555,930	564,624	644,903	630,890	3,326,778
LEA:							
Daily average	947	894	999	992	1,019	1,025	
Month	29,351	25,924	30,982	29,766	31,588	30,742	178,348
COOPER:							
Daily average	8,341	8,281	8,148	8,657	8,663	7,497	
Month	258,583	240,140	252,578	259,719	268,543	224,901	1,504,464
MONUMENT:							
Daily average	3,077	4,923	6,478	6,793	10,042	11,332	
Month	95,389	142,760	200,814	203,779	311,305	339,965	1,294,012
Daily average	60,163	63,400	67,660	68,507	74,305	72,793	67,827
Total first six months 1936	1,865,049	1,838,603	2,097,447	2,055,198	2,303,441	2,183,776	12,344,519
Total first six months 1935	1,627,833	1,379,563	1,599,331	1,535,989	1,626,572	1,660,519	9,429,807
Total first six months 1934	1,285,867	1,129,208	1,277,794	1,370,695	1,407,997	1,384,044	7,851,605
Total first six months 1933	995,813	1,020,824	1,148,674	1,065,030	1,092,719	1,063,290	6,386,350
Total first six months 1932	1,152,766	1,056,703	1,126,354	1,096,320	1,109,273	1,069,020	6,610,435

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NE section 4-23-37, was completed at 3,687 feet and flowed 73 bbls. first 24 hours after being shot with 370 quarts. The elevation of this well is 3,323 feet. The third wildcat, at the lower point of a triangle, 2 miles southeast of No. 1 King and 2 miles southwest of No. 1 Simms, was completed as a gas well. This was Skelly No. 1 Steeler, C NW NE section 17-23-37. It was drilled to 3,810 feet, plugged back to 3,758 feet, shot with 330 quarts and cleaned itself and made 7,000,000 feet of gas per day. Elevation, 3,333 feet. Top of pay, 3,505 feet. Skelly next completed its No. 1 Harrison, C NW SW section 5-23-37, three-fourths of a mile east of its abandoned No. 1 King, at 3,794 feet. It flowed 224 bbls. in 24 hours from lime pay at 3,620-3,762 feet. Elevation, 3,352 feet. Skelly's next completion was its No. 1 King, C SE NW section 4-23-37, three-fourths of a mile southeast of the discovery. It made 142 bbls. in 24 hours open at 3,562-3,590 feet. Elevation, 3,331 feet. These were the only wells completed in that district, but six miles farther to the southeast Crafton Oil Co.'s No. 1 Hair, C SW SW section 11-24-37, was completed as a 45-bbl. pumper in lime at 3,545-3,760 feet. Two and one-half miles farther to the southeast of No. 1 Hair, half a mile to the east, Liberty Oil & Drilling Co.'s No. 1 Hair, SW SW SE section 11-24-37, was dry and abandoned at 3,702 feet. Two and one-half miles southwest of last named (No. 1 Hair) Plains Production Co.'s No. 1 Moseley, C NW SE section 34-24-37, flowed 110 bbls. in 24 hours through the casing. After cleaning itself it made 9 bbls. an hour through the tubing. Total depth is 3,551 feet.

The importance of the development in this series of wildcats lies in the fact that production is coming from sand rather than from lime breaks reveals a condition of great significance. The most northern and most southern of the producers are about 10 miles apart.

JAL AREA

Eight new units were added to the productive area in the Jal pool, but these were developments of ordinary interest. The main developments of importance, like that in the Cooper area, were the wildcat discoveries east of the field which may be and probably are a continuation of the situation discovered to the north.

Late in April, Culbertson-Irwin-Stovall's No. 1 Stuart, C SW SE section 10-25-37, two miles south of No. 1 Moseley, described under the East-of-Cooper review, was completed at 3,296 feet, in sand topped at 3,292 feet, for 139 bbls. of oil in two hours with 8,000,000 feet of gas. The elevation is 3,105 feet. Two miles to the southwest of No. 1 Stuart, Leonard & Lanehart's No. 1 Leonard, C SW NE section 21-25-37, was completed in sand at 3,007 feet for 44 bbls. oil per day through the casing with 4,880,000 feet of gas. The top of the pay was 2,991 feet and the elevation 3,079 feet. Two offsets were drilled by Humble Oil & Refining Co., one making 20 bbls. an hour and the other 72 bbls. in 24 hours.

Gulf Oil Corp. completed a gas well in the C SW SE section 10-25-37, half a mile south of the discovery, and followed with another in sand two miles to the southeast in its No. 1 Buffington, C NW SW section 13-25-37, which gauged 9,028,000 feet while still in sand, with 1,340 pounds rock pressure. The elevation of this well is 3,091 feet. Sun Oil Co.'s No. 1 Stuart, C NW NE section 15-25-37, which carried the play half a mile to the southwest of the group of three producers in section 21, gauged 883 bbls. in 24 hours with 4,500,000 feet of gas, from sand at 3,338-90 feet. Taken in conjunction with the wells developed on the east side of the Cooper area, there is a territory about 16 miles long which will undoubtedly become an important sand development.

NEW MEXICO

Summary of Wells Completed First Half of 1936

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	32	31,494	1	3
February	32	48,587	6	1
March	42	53,678	4	2
April	48	73,679	1	1
May	49	48,969	7	1
June	62	67,905	6	2
First half 1936	265	324,312	25	10
First half 1935	138	251,934	31	3
Difference	127	73,378	6	7

Completions by Counties

County—	Comp.	Prod.	Dry	Gas
Bernalillo	1	0	1	0
McKinley	5	38	3	0
San Juan	8	237	1	3
Lea	232	322,553	12	6
Eddy	17	1,484	6	1
Chaves	1	0	1	0
Quay	1	0	1	0
Total	265	324,312	25	10

WYOMING

Discoveries in fault blocks and deeper formations and extensions of producing pools played a more important part in Wyoming development in the first half of 1936 than the discovery of new pools. Only one wildcat discovery took place and it was not of major importance. This was Conway Oil Corp.'s No. 1 Government, C SE NW section 7-41n-60, on the Dewey dome, in Weston County, in the northeastern part of the state. The discovery was in the Pahasapa of the lower Carboniferous, which correlates with the Madison in northwestern Wyoming and Montana, at 2,304 feet. The 3½-inch casing was set at that depth and the well was still drilling slowly ahead at 2,318 feet at last reports. The oil is a black crude and production is estimated at around 15 bbls. a day. The oil appears to be of about 38 gravity, though no complete analysis is available. The Dakota sands had large water. The top of the Dakota was at 350 feet and the top of the Minnelusa, Pennsylvanian, at 1,720 feet.

The major discovery for the period was in a deeper formation in the Lance Creek field in Niobrara County in Ohio Oil Co.'s No. 5 Converse Sheep, C SE SW section 32-36-65. Following the discovery of big production in the lower Sundance sand of the Jurassic in 1935, the wells have been carried down to the top of the red beds at 4,000 feet. Ohio Co.'s No. 5 Converse Sheep, with an elevation of 4,366 feet, which is located almost on top of the structure, was drilled on down to test the Tensleep. It topped the red beds at 3,750 feet and had 67 bbls. an hour production in the basal Sundance on a drill stem test. Thereafter the company discontinued giving out official information regarding the well. The information most generally ac-

WYOMING

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BADGER BASIN:							
Daily average	40	42	36	35	38	37	
Month	1,240	1,218	1,116	1,050	1,178	1,110	6,912
BIG MUDDY:							
Daily average	1,478	1,344	1,501	1,472	1,446	1,529	
Month	45,818	38,976	46,531	44,160	44,826	45,870	266,181
BLACK MOUNTAIN:							
Daily average	.....	31	.....	.....	353	17	
Month	.....	899	.....	.....	11,098	510	12,507
BYRON-GARLAND:							
Daily average	1,097	35	411	786	2,034	404	
Month	34,007	1,015	12,741	23,580	63,054	12,120	146,517
DALLAS DERBY:							
Daily average	559	587	572	566	571	569	
Month	17,329	17,023	17,732	16,980	17,701	17,070	103,835
DUTTON CREEK:							
Daily average	37	31	53	62	56	61	
Month	1,147	899	1,643	1,860	1,736	1,830	9,115
ELK BASIN:							
Daily average	681	547	637	308	359	408	
Month	21,111	15,863	19,747	9,240	11,129	12,240	89,330
FERRIS:							
Daily average	16	17	14	16	56	28	
Month	496	493	434	480	1,736	840	4,479
FRANNIE:							
Daily average	822	1,136	2,470	2,449	1,171	1,382	
Month	25,792	32,944	76,570	73,470	36,301	41,460	286,537
GRASS CREEK:							
Daily average	2,113	2,076	2,115	801	893	1,198	
Month	65,503	60,204	65,565	24,030	27,683	35,940	278,925
HAMILTON:							
Daily average	565	133	731	780	1,455	1,332	
Month	17,515	3,857	22,661	23,400	45,105	39,960	152,498
HUDSON:							
Daily average	234	238	252	270	350	292	
Month	7,254	6,902	7,812	8,100	10,850	8,760	49,678
LABARGE:							
Daily average	1,196	1,063	1,199	1,175	1,194	1,124	
Month	37,076	30,827	37,169	35,250	37,014	33,720	211,056
LANCE CREEK:							
Daily average	3,501	4,814	3,919	3,551	3,495	3,918	
Month	108,531	139,606	121,489	106,530	108,345	117,540	702,041
LOST SOLDIER:							
Daily average	1,213	1,388	1,346	1,354	1,229	1,394	
Month	37,603	40,252	41,726	40,620	38,099	41,820	240,120
OREGON BASIN:							
Daily average	1,907	1,249	1,554	1,751	2,357	1,872	
Month	59,117	36,221	48,174	52,530	73,067	56,160	325,269
OSAGE:							
Daily average	62	587	548	804	789	797	
Month	1,953	17,023	16,988	24,120	24,459	23,910	108,453
POISON SPIDER:							
Daily average	89	59	122	162	168	162	
Month	2,759	1,711	3,782	4,890	5,208	4,890	23,240
ROCK RIVER:							
Daily average	1,869	1,915	2,028	2,148	1,585	1,482	
Month	57,939	55,535	62,868	64,440	49,135	44,460	334,377
SALT CREEK:							
Daily average	16,417	15,859	17,260	17,240	16,350	16,646	
Month	508,927	459,911	535,060	517,200	506,850	499,380	3,027,328
HIDDEN DOME:							
Daily average	66	100	100	90	90	91	
Month	2,046	2,900	3,100	2,700	2,790	2,730	16,266
MIDWAY:							
Daily average	50	24	64	45	43	56	
Month	1,550	696	1,984	1,350	1,333	1,680	8,593
TEAPOT:							
Daily average	15	4	21	20	25	25	
Month	465	116	651	600	775	750	3,357
QUEALY DOME:							
Daily average	71	85	85	125	110	438	
Month	2,201	2,465	2,635	3,750	3,410	13,140	27,601
WARM SPRINGS:							
Daily average	167	170	170	50	48	51	
Month	5,177	4,930	5,270	1,500	1,488	1,530	19,895
Daily average	34,276	33,534	37,208	36,061	36,270	35,314	35,462
Total first six months 1936	1,062,556	972,486	1,153,448	1,081,830	1,124,370	1,059,420	6,454,110
Total first six months 1935	1,028,439	936,981	1,019,743	1,118,852	1,084,698	1,160,513	6,349,226
Total first six months 1934	895,359	872,848	972,970	976,548	1,111,533	1,013,668	5,803,926
Total first six months 1933	979,290	855,568	968,750	898,860	934,960	899,859	5,537,278
Total first six months 1932	1,010,445	1,093,097	1,189,997	1,103,310	1,157,323	1,043,080	6,606,252
Total first six months 1931	1,368,234	1,254,568	1,264,366	1,329,390	1,329,652	1,278,720	7,814,930

cepted as reliable is that the Tensleep was cored somewhere below 4,600 feet and that the well flowed 200 bbls. an hour with 7,000,000 to 8,000,000 feet of gas. The oil, while having an asphalt base, tests 40 gravity with only a slight odor of sulfur. Estimates as to the capacity of the well go up as high as 8,000 bbls. a day, but the more conservative estimate is that it will make 3,000 to 4,800 bbls. a day from this horizon. Whether the test will be continued on to the Madison, or completed in the Tensleep, has not been revealed.

The most important extension of a producing pool also took place in Lance Creek in Continental Oil Co.'s No. 2 Apex-3, on Buck Creek lease, C SE NW section 34-36-65, which is a little more than a mile east of the nearest producer. It proves up several hundred acres, most of which is controlled by the Continental. It made 50 bbls. an hour on a drill stem test in the basal Sundance at 4,012-26 feet. The elevation is 4,387 feet.

The field is now productive for three miles on a northeast-southwest trend, with the edges not yet defined. Following the completion of the discovery in the basal Sundance in April, 1935, a total of 16 wells have been drilled to that horizon to date. Eight of these were completed in the first six months of 1936 with a total potential of 17,283 bbls., based on initial tests.

The Byron field in Big Horn County was extended one and one-third miles to the southeast in a test drilled by W. O. Taylor, and others, No. 1 Hoskins, Lot 5, (SE SE) section 25-56-97, in the Embar-Tensleep black oil series at a total depth of 5,371 feet. The location does not necessarily mean that the intervening area will be productive as the discovery is in a fault block to the south of the main production and another fault block (so far untested) lies between. The top of the Embar was at 5,252 feet and the top of the Tensleep at 5,355 feet. The 8¼-inch was cemented on top the Embar. It was estimated at 150 bbls. a day. After treating with 2,000 gallons of acid and standing 12 hours, it swabbed 500 bbls. in 14 hours and then began flowing. It was shut in and estimated at 600 bbls. initially.

The Big Medicine Bow structure, in Carbon County, where Ohio Oil Co. and California Co. jointly made a major discovery in 1935, was extended three-fourths of a mile to the south and a little east early in January and again one location to the east in March. In January, 1936, the two companies completed No. 2 State, C NW NW section 36-21-79, for 1,920 bbls. and 5,000,000 feet of gas, initially, in the first Sundance at 5,478-5,507 feet after plugging back from 5,910 feet. The second Sundance at 5,640-5,702 feet contained water as did also the third Sundance at 5,760-5,810 feet. It also tested the Jelm sand in the upper red beds at 5,836-5-910 feet without results. Early in March their No. 1 Union Pacific, NE SW NW section 25-21-79, 682 feet east of the discovery, was drilled to 5,475 feet and flowed 175 bbls. an hour with 2,900,000 feet of gas, from the first Sundance at 5,259-5,303 feet, and 165 bbls. an hour with 2,000,000 feet of gas, from the second Sundance at 5,381-5,475 feet, or at the rate of 8,160 bbls. a day from the two sands. The evelation of the discovery is 5,271 feet and of No. 1 Union Pacific, 7,269 feet.

WYOMING

Summary of Wells Completed First Six Months of 1936

County—	Comp.	Prod.	Dry	Gas
Albany	3	1,372	1	0
Big Horn	5	1,012	2	0
Carbon	11	12,141	4	0
Converse	1	25	0	0
Fremont	1	250	0	0
Hot Springs	2	1,464	0	0
Natrona	1	50	0	0
Niobrara	8	11,998	0	0
Park	1	50	0	0
Uinta	2	0	2	0
Sweetwater	1	0	1	0
Washakie	1	15	0	0
Weston	6	47	0	0
Total	43	28,424	10	0
Same period 1935	26	19,382	8	3
Difference	17	9,042	2	3

Completions by Months

	Comp.	Prod.	Dry	Gas
January	8	7,292	1	0
February	4	1,680	3	0
March	8	8,853	1	0
April	5	3,134	1	0
May	9	2,076	3	0
June	9	5,389	1	0
Total	43	28,424	10	0

COLORADO

While drilling operations in Colorado were conducted on a very restricted scale during the first half of 1936, one discovery was made and one pool discovered in 1935 was extended. The discovery was South Park Oil Co.'s No. 1 State, SE SE SW section 16-11s-75, on the Hartsel anticline in Park County, in the central part of the state. This well is the highest producing oil well in the world, its surface elevation being 9,386 feet. The pay lacked only 51 feet of being a mile above sea level. The well came in on April 13 at 4,157 feet in the top of a sand known locally as the Apache, estimated at approximately 400 feet above the base of the Pierre shale. Oil rose 400 feet in the hole. Then one foot in the sand it stood at 1,200 feet and two feet in the sand it filled at the rate of 1,300 feet an hour and began flowing. When the well was opened after being shut in while preparations were made to underream the 6¼-inch to the top of the sand, it did not flow. Deepening started and at 4,161-67 feet it penetrated an igneous sill. Below the sill the well swabbed at the rate of 200 bbls. a day. The oil was cased off and drilling continued in sandy shale, the hole swabbing 50 bbls. a day of new oil. The casing was lowered as drilling continued and at 4,512 feet it went through another thin sill with some oil and gas showing below it. At last report it was bottomed at 4,586 and at 4,558 feet it gauged 2,880,000 feet of gas with a pressure of 531 pounds. The 6¼-inch was at 4,556 feet and being lowered to shut off the gas. The gas increased to 5,000,000 feet and the pressure to 925 pounds when a light shot was fired to shoot off a projection which prevented lowering of the pipe.

The discovery is on a long narrow anticline running north and south upon which are several domes. The geological work upon which the discovery was spotted was done by C. E. Shoenfelt, of Petroleum Information, Inc., assisted by H. E. Mathias, Ross L. Heaton and R. M. Butters.

An important extension of the Price pool, in Archuleta County, just north of the New Mexico line was made in two wells drilled by the William E. Hughes estate. The operator, pending definite determina-

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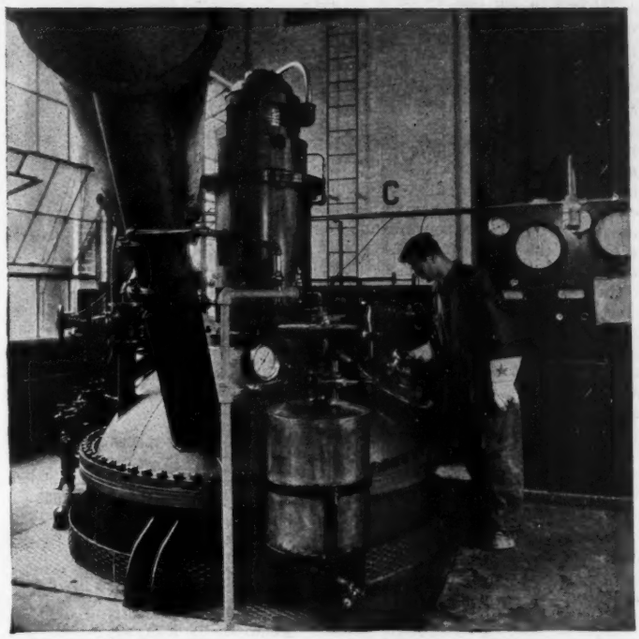

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SYNTHETIC RESINS

tions of structural and sand conditions, is giving out only limited information. In 1935 two wells were completed on unsurveyed land, but approximately along the south line of the SE of section 24-33n-2e, at around 1,200 feet in the Dakota sand for an estimated capacity of 500 bbls. each per day. These were located about 440 feet apart. A third well, No. 4 Gramps, approximately 440 feet east of No. 2, was abandoned after having a show of oil. No. 6 Gramps, nearly half a mile north of No. 2 Gramps, approximately NW NE SE of section 24, was completed at an undisclosed depth, but in the same horizon as the wells to the south, and was rated by the operator at 1,448 bbls. a day, based on a 4-hour swabbing test. No. 5 Gramps, 1,000 feet southwest of No. 6 Gramps, was officially rated at 1,800 to 2,200 bbls. daily, also based on a short swabbing test, there being no storage available for a 24-hour test. No. 7 Gramps, between Nos. 4 and 5, was completed for better than 1,000 bbls., there being no official rating or statement as to depth. Two wells, spotted with a view to determining the productive area, are drilling at locations to the north of group of wells so far drilled. The oil is about 32 gravity, of paraffin base. From the logs of wells so far drilled, a knowledge of sand conditions and the trend of the structure as shown up to date, Lafayette M. Hughes, manager of the estate, estimates that at least 1,000 acres upon which can be developed a production of 10,000 bbls. a day has so far been proven. The estate owns about 65,000 acres of land in fee.

COLORADO

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
CRAIG:							
Daily average	412	336	336	389	472	435	
Month	12,772	9,744	10,416	11,670	14,632	13,050	72,284
FORT COLLINS:							
Daily average	73	72	77	54	57	56	
Month	2,263	2,088	2,387	1,620	1,767	1,680	11,805
FLORENCE:							
Daily average	180	205	191	222	187	145	
Month	5,580	5,945	5,921	6,660	5,797	4,350	34,253
ILES:							
Daily average	2,106	2,645	3,078	3,893	3,511	3,530	
Month	65,286	76,705	95,418	116,790	108,841	105,900	568,940
ORCHARD:							
Daily average	58	52	34	71	36	71	
Month	1,798	1,508	1,054	2,130	1,116	2,130	9,736
RANGELY:							
Daily average	81	76	81	67	81	77	
Month	2,511	2,204	2,511	2,010	2,511	2,310	14,057
TOW CREEK:							
Daily average	150	156	226	168	192	184	
Month	4,650	4,524	7,006	5,040	5,952	5,520	32,692
WELLINGTON:							
Daily average	257	286	219	298	302	294	
Month	7,967	8,294	6,789	8,940	9,362	8,820	50,172
Daily average	3,317	3,828	4,242	5,162	4,838	4,792	4,362
Total first six months 1936	102,827	111,012	131,502	154,860	149,978	143,760	793,939
Total first six months 1935	109,690	111,743	148,149	146,635	150,325	133,302	799,844
Total first six months 1934	88,065	77,836	80,388	75,132	94,308	84,689	500,418
Total first six months 1933	83,421	69,356	81,437	66,270	80,848	73,170	454,502
Total first six months 1932	107,384	104,052	111,817	101,580	100,400	89,520	614,793

COLORADO

Summary of Wells Completed First Six Months of 1936

County—	Comp.	Prod.	Dry	Gas
Archuelta	4	4,448	1	0
Boulder	1	2	0	0
Costilla	1	0	1	0
Elbert	1	0	1	0
Huerfano	1	0	1	0
Jackson	1	35	0	0
Larimer	1	0	1	0
Moffat	1	178	0	0
Montezuma	1	0	1	0
Prowers	1	0	1	0
Washington	1	0	1	0
Weld	2	0	2	0
Total	16	4,663	10	0
Same period 1935	8	8,488	3	0
Difference	8	3,825	7	0

Completions by Months

	Comp.	Prod.	Dry	Gas
January	3	35	2	0
February	2	0	2	0
March	4	2,002	2	0
April	2	0	2	0
May	2	1,626	0	0
June	3	1,000	2	0
Total	16	4,663	10	0

MONTANA

Montana scored one discovery in the first half of 1936 in the eastern part of the state and only a few miles from the North Dakota boundary. The productive area of the Cut Bank field in Glacier County was gradually pushed out to the south and southwest and on the north and west with the actual limits of the field still undetermined by the drill. The Kevin-Sunburst field witnessed a pronounced revival of drilling. Outside of these developments Montana had little to report other than routine progress.

The discovery was made in Montana-Dakota Utilities Co.'s No. 1 Unit 1, NE NE NW section 17-4n-62e, on the Cedal Creek structure (Baker-Glendive anticline), in Fallon County, only two miles from the eastern boundary. The Cedar Creek anticline is an anticlinal fold starting in South

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Dakota, crosses into Montana in Carter County and trends to the northwest for approximately 100 miles and disappears under the Fort Union beds approximately 15 miles northwest of Glendive. The fold is asymetrical, with steep dips on the west and gentle dips on the east, with a width of 3 to 5 miles. Several gas pools have been developed along the axis of the anticline by wildcatting in more than 200 wells drilled, of which three-fourths were capable of producing gas from shallow horizons. The deepest well previously drilled went only to the Dakota at 4,187 feet, in which there was water. This well was in section 21-4n-61.

The discovery well started drilling in 1935 on a location spotted following a seismograph survey by John H. Wilson's Colorado Geophysical Corp. It showed little of a promising nature until April, 1936, when it cored oil saturation in the Madison (Mississippian) lime at 6,647-97 feet. The first test, made in the presence of a large number of scouts, took place at night and it looked as though it would make a 6,000 or 7,000-bbl. producer. However, it showed about 80 per cent water held in suspension. After considerable experimental work and plugging back and cementing three times, the bottom water finally was shut off and it swabbed 20 bbls. of pipe line oil an hour. Before plugging back it had been acidized with 2,000 gallons. The pay is at 6,747-59 feet. The elevation 2,991 feet. The oil is approximately 30 gravity with asphalt base. Work on the well gradually increased the oil to 60 bbls. an hour, when bottom water again broke in and the hole was cemented for the fourth time.

The well cut the Niobrara at 2,075-2,252 feet; the Dakota series at 3,688-3,752 feet; the Sundance series at 4,025-4,616 feet; the Spearfish (Triossic) at 4,616-5,463 feet; the Minnelusa (Pennsylvanian) at 5,631-6,747 feet.

CUT BANK FIELD

The Cut Bank field in Glacier County had nearly 2,000 acres of land thrown open for prospecting during 1936 campaign as a result of the sale of leases on Tribal land to the south and southwest of production. Drilling requirements brought considerable testing in that area with extensions of from one to two miles in the producing area. Wells averaged about the same as those in the older part of the field.

Several extensions of a few locations each were made on the west side. One of these, the farthest west, proved the sensation of the field. It was Santa Rita Oil & Gas Co.'s No. 1 Lander, C N half SE section 16-35n-6w, which tested only 2 bbls. of oil in the Cut Bank at 2,915-65 feet. With the oil was 12 bbls. of water. The Sunburst sand, which lies just above the Cut Bank, is seldom a producer in the field, and had only a show in No. 1 Lander. It was decided to test this show in plugging back and the casing was shot off opposite the sand at 2,843-58 feet. It responded with a flowing well, making 480 bbls. first 24 hours and gradually kept increasing up to 2,000 bbls. a day, a record for the field. So far this year it had produced around 180,000 bbls. and is still making 900 bbls. a day when opened to capacity. Offsets on the east, south and north either found no Sunburst or was dry. No well has been drilled on the west.

There was a considerable revival in drilling operations in the Kevin-Sunburst Field. This was due almost entirely to results obtained by acidization of wells in the Ellis-Madison lime. Wells which apparently were dry have been turned into small commercial wells and some completions showing for only a few bbls. initial were jumped up to as high as 100 bbls. first 24 hours by treatment.

MONTANA

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BORDER:							
Daily average	124	42	223	224	226	221	
Month	3,844	1,218	6,913	6,720	7,006	6,630	32,331
CAT CREEK:							
Daily average	714	611	630	747	751	755	
Month	22,134	17,719	19,530	22,410	23,281	22,650	127,724
CUT BANK:							
Daily average	6,238	6,059	7,735	8,933	9,451	9,105	
Month	193,378	175,711	239,785	267,990	292,981	273,150	1,442,995
DRY CREEK:							
Daily average	.....	95	1,523	580	1,507	1,320	
Month	.....	2,755	47,213	17,400	46,717	39,600	153,685
KEVIN-SUNBURST:							
Daily average	3,672	2,435	4,308	4,495	4,189	4,531	
Month	113,832	70,615	133,548	134,850	129,859	135,930	718,634
LAKE BASIN:							
Daily average	48	47	52	41	41	42	
Month	1,488	1,363	1,612	1,230	1,271	1,260	8,224
PONDERA:							
Daily average	1,112	890	974	1,135	998	1,248	
Month	34,472	25,810	30,194	34,050	30,938	37,440	192,904
SOAP CREEK:							
Daily average	.....	.....	116	115	.....	.....	
Month	.....	.....	3,596	3,450	.....	.....	7,046
Daily average	11,908	10,179	15,561	16,270	17,163	17,272	
Total first six months 1936	369,148	295,191	482,391	488,100	532,053	516,660	2,683,543
Total first six months 1935	348,101	302,697	321,665	323,955	325,205	312,071	1,933,704
Total first six months 1934	223,641	196,789	220,434	235,904	275,544	247,687	1,399,599
Total first six months 1933	183,086	150,864	172,608	179,310	186,031	203,340	1,075,239
Total first six months 1932	173,569	166,273	189,224	223,830	233,647	210,060	1,196,703

MONTANA

Summary of Wells Completed
First Six Months of 1936

County—	Comp.	Prod.	Dry	Gas
Big Horn	3	0	1	2
Fallon	1	200	0	0
Fergus	2	0	1	1
Glacier	59	6,530	5	2
Liberty	1	0	0	1
Petroleum	1	0	1	0
Pondera	2	0	2	0
Teton	1	0	1	0
Toole	24	628	5	2
Total	94	7,358	16	8
Same period 1935	62	5,104	12	4
Difference	32	2,254	4	4

Completions by Months

	Comp.	Prod.	Dry	Gas
January	12	2,264	1	2
February	4	371	0	2
March	7	369	2	0
April	21	1,274	7	1
May	24	1,481	2	2
June	26	1,599	4	1
Total	94	7,358	16	8

UTAH

Summary of Wells Completed
First Six Months of 1936

County—	Comp.	Prod.	Dry	Gas
Washington	4	0	4	0
Grand	1	0	1	0
Total	5	0	5	0
Same period 1935	4	0	3	1
Difference	1	0	2	1

Completions by Months

	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	0	0	0	0
March	3	0	3	0
April	0	0	0	0
May	0	0	0	0
June	1	0	1	0
Total	5	0	5	0

Walter Buzzini, Jr., of the Loma Oil Co., San Antonio, Tex., is spending a month's vacation in Colorado. He is at Creede, near the headwaters of the Rio Grande river, and will return to San Antonio about the middle of August.

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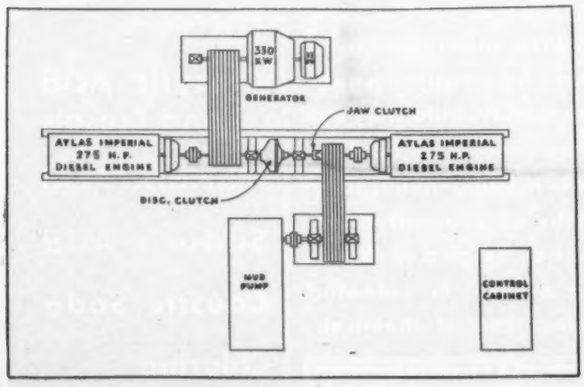
Here's Performance!

Top picture shows the operator's side of the Atlas Diesel in the foreground and the exhaust side of the Atlas Diesel in the background. The 330 K.W. Allis-Chalmers generator is V-Belt driven and supplies the current for the 400 H.P. drilling motor. The lower picture shows the mud pump, also V-Belt driven on the opposite side from the generator.



The drawing above illustrates the hook-up employed in the installation pictured at the top. Other hook-ups are shown in our new bulletin "Atlas Imperial Diesels for all Oil Field Service." A copy will be mailed to you on request.

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ATLAS IMPERIAL

Semi-Annual Review

OPEN ELEVEN POOLS ON GULF COAST; BIG INCREASE IN PRODUCTION

By F. L. SINGLETON

With 11 fields added to the list of producing pools on the Gulf Coast, and numerous extensions and deeper pay horizons developed in many of the older producing fields, developments along the coast during the first six months of 1936 were most encouraging to the operators and all indications point to an increase in exploration for the remainder of the year.

Of the 11 discoveries, 2 were in Coastal Louisiana while the balance were along the Texas Coast. Those in Louisiana were Bayou Mallet, Acadia Parish and Big Lake in Cameron Parish, and those on the Texas side included Amelia, Jefferson County; South Bay City, Matagorda County; Lockridge, Brazoria County; Quintana area, Refugio County; Lakeview and West Withers, Wharton County; Heyser, Calhoun County; Green Lake, Galveston County, and Fairbanks, Harris County.

At the close of the six months attention was centered on four prospects which have shown favorable indications of commercial production and they may be proven fields before the end of the year. They are Hawkinsville dome, Matagorda County; Nome, Jefferson County; Reeves, Allen Parish; and Cotton Lake, Chambers County. Two salt domes were uncovered in Coastal Louisiana which has assured additional development that may eventually prove them productive.

BAYOU MALLET

The Bayou Mallet field in northern Acadia Parish was discovered as a wet gas field in January by the completion of Superior Oil Producing Co. No. 1 Adams Smith, but was converted into an oil field when the same company's No. 1 Bradley located 2,250 feet south of the gasser, flowed 324 bbls. of 27.9 gravity oil per day through twelve-sixty-fourths inch choke with tubing pressure 525 pounds and casing pressure 525 pounds. The hole was drilled to 8,000 feet and after 7-inch casing was cemented at 7,314 feet it was perforated in the Heterostegina sand from 6,385-90 feet. An electrical coring test showed high porosity in three sands being at 6,385-97 feet, 6,988-98 feet and from 7,195-7,213 feet. The gasser was completed in sand from 7,190-7,210 feet. The field centers around section 47-7s-1e, on a block of 9,000 acres. Four producers and one dry hole have been completed.

AMELIA DISCOVERY

With the exception of the Amelia and Bayou Mallet fields, the other new pools are in the early stages of development and their potentialities will not be known until further development is done. The Amelia field in northern Jefferson County on the outskirts of the Beaumont City limits and located in the C. Williams Survey, was opened the latter part of February by the completion of Humble Oil & Refining Co. No. 1 Langham which was completed in the Frio sand bottomed at 6,777 feet, for an initial production of 20 bbls. per hour through a quarter-inch choke with tubing pressure 675 pounds and casing pressure 800 pounds. The hole was originally drilled to a depth of 6,903 feet and was plugged back and completed in approximately 400 feet of the Frio section. The company has completed five producers, but as the field is known to be of a faulted area, the producing limits are not expected to extend over a wide area. This condition was found to exist in a well located 2½ miles northwest of the discovery which was drilled by Glenn H. McCarthy and completed as a wet gasser through perforated casing made in the Marginulina sand from 5,835-55 feet.

DEEP POOL RECORD

A new producing record was marked up for the state of Texas with the discovery of the South Bay City field located 2 miles south of the town of Bay City in the Elisha Hall Survey, central Matagorda County. The field was opened March 6 by Hamman Exploration Co. No. 1 May Cleveland, and it flowed 230 bbls. of 33.8 gravity oil and 30 bbls. of salt water through a three-eighths inch choke from perforations made in the casing from 9,361½-70 feet. The hole is bottomed at 9,444 feet and production is from 30 feet of Frio sand. Eight possible oil sands were indicated on an electrical coring survey and may be tested in the future.

GULF COAST TEXAS
(Upper District)

Daily Average and Monthly Production in First Six Months of 1936

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
AMELIA							
Daily average	.....	119	164	175	247	347	
Month	.....	3,453	5,088	5,246	7,653	10,409	31,849
ANAHUAC:							
Daily average	5,013	4,990	5,991	6,864	8,307	8,427	
Month	155,399	144,714	185,718	205,918	257,512	252,812	1,202,073
ARRIOLA:							
Daily average	1,353	1,304	1,391	1,392	1,171	1,087	
Month	41,947	37,812	43,124	41,762	36,306	32,608	233,559
BARBERS HILL:							
Daily average	17,516	15,949	17,218	17,065	17,548	15,237	
Month	542,992	462,525	533,754	511,953	543,936	457,113	3,052,323
BATSON:							
Daily average	2,151	2,152	2,021	2,096	1,945	2,028	
Month	66,677	62,404	62,655	62,877	60,297	60,837	375,747
BIG CREEK:							
Daily average	1,051	1,004	1,070	1,029	1,092	1,073	
Month	32,585	29,118	33,172	30,875	33,855	32,194	191,799
BLUE RIDGE:							
Daily average	1,589	1,683	1,637	1,739	1,794	1,954	
Month	49,254	48,806	50,749	52,165	55,611	58,616	315,201
BOLING:							
Daily average	799	758	758	1,034	998	1,127	
Month	24,765	22,936	23,496	31,014	30,933	33,805	166,949
BUCKEYE:							
Daily average	194	167	205	230	185	216	
Month	6,018	4,846	6,357	6,907	5,731	6,486	36,345
CLAY CREEK:							
Daily average	1,148	1,102	1,084	1,064	1,093	1,084	
Month	35,584	31,955	33,607	31,913	33,887	32,514	199,460
CLEVELAND:							
Daily average	844	838	959	965	926	879	
Month	26,168	24,305	29,726	28,953	28,703	26,377	164,232
CONROE:							
Daily average	38,246	40,403	41,551	43,481	43,722	43,987	
Month	1,185,622	1,171,648	1,288,084	1,304,427	1,355,385	1,319,603	7,624,805
DAMON MOUND:							
Daily average	479	478	475	482	501	612	
Month	14,845	13,865	14,722	14,458	15,534	18,368	91,792
DICKINSON:							
Daily average	1,435	1,557	1,619	1,835	2,025	2,578	
Month	44,489	45,157	50,186	55,054	62,772	77,332	334,990
ESPERSON:							
Daily average	1,330	1,281	1,048	1,549	1,777	1,879	
Month	41,226	37,145	32,491	46,466	55,083	56,379	268,790
FANNETT:							
Daily average	1,000	960	964	881	870	898	
Month	31,004	27,843	29,887	26,433	26,974	26,931	169,072
GILLOCK:							
Daily average	323	351	359	455	496	538	
Month	10,017	10,176	11,126	13,647	15,379	16,141	76,486
GOOSE CREEK:							
Daily average	2,616	2,695	2,872	2,942	2,826	2,687	
Month	81,092	78,153	89,036	88,266	87,603	80,609	504,759
HANKAMER:							
Daily average	1,722	2,090	1,965	2,298	2,312	2,237	
Month	53,386	60,612	60,911	68,934	71,674	67,112	382,629
HARDIN:							
Daily average	345	345	365	362	365	365	
Month	10,691	10,007	11,317	10,862	11,313	10,948	65,138
HASTINGS:							
Daily average	4,826	5,173	5,496	5,918	6,247	7,334	
Month	149,602	150,014	170,374	177,538	193,663	220,023	1,061,204
HIGH ISLAND:							
Daily average	6,675	7,090	6,593	6,398	6,195	5,912	
Month	206,929	205,613	204,387	191,944	192,049	177,357	1,178,379
HULL:							
Daily average	5,748	5,587	5,738	5,548	5,265	5,443	
Month	178,184	162,021	177,874	166,436	163,212	163,294	1,011,021
HUMBLE:							
Daily average	3,444	3,309	3,439	3,429	3,561	3,637	
Month	106,761	95,963	106,603	102,877	110,394	109,106	631,704
KITTRELL:							
Daily average	1,078	1,081	1,035	1,027	979	1,062	
Month	33,414	31,346	32,082	30,803	30,346	31,865	189,856

(Continued on Next Page)

The discovery is located on a block of 7,000 acres that was checked three times with reflection seismograph which shows the structure to be approximately 4 miles long and about a mile wide. Production has been averaging around 150 bbls. per day and is being run through a 2-inch pipe line to a four-car loading rack where it is shipped to Houston. Prior to the completion of the well the only 9,000-foot production was at the Dickinson field where Humble Oil & Refining Co. has several wells producing below 9,000 feet.

LOCKRIDGE PROSPECT

Although it is not listed among the producing fields, the Lockridge prospect, western Brazoria County, was definitely proven for production the latter part of March when Gulf Oil Corp. No. 1 Fairfield located in the A. Robinson Survey, flowed 75 bbls. of 43 gravity oil per day from a total depth of 6,277 feet. Seven-inch casing was cemented at 6,255 feet and production was developed from 10 feet of Frio sand. After making the test the operators decided to drill deeper and encountered a second sand at 8,398 feet at which depth the well tried to blow out causing the drill stem to stick which resulted in the hole being plugged back and sidetracked. At the end of June the sidetracked hole was below 8,400 feet and had not encountered the sand due to the hole being several degrees off vertical.

Only two new fields were developed in the lower Gulf Coast region. These were the Qintana area in Refugio County and the Heyser field in Calhoun County. Quintana Petroleum Corp. No. 1 Fannie Heard, located about 1½ miles north of the McFaddin-O'Connor field, Refugio County, was drilled to 5,968 feet and with 7-inch casing cemented on bottom, it flowed 1,430 bbls. of pipe line oil per day through a three-eighths inch choke with tubing pressure 900 pounds. Production is from the Frio sand at 5,850-54 feet. The field was discovered April 25.

In the northwestern part of Calhoun County, Humble Oil & Refining Co. opened the second field for the county with the completion of No. 2 P. H. Welder. It flowed 5 bbls. per hour of 33.2-gravity oil through a seven-sixty-fourths inch choke with shut-in casing pressure 2,125 pounds and tubing pressure 1,390 pounds. The hole is bottomed at 5,475 feet and production was obtained by perforating the casing from 5,465-70 feet. This new pool is known as Heyser and is located in the Maria Rios Survey. A second test located 6,100 feet southwest of the discovery is nearing the sand.

DRY GAS DISCOVERIES

Two dry gas fields were found in Wharton County. Northeast of the town of El Campo, and 6 miles north of the Pickett Ridge field, Smith & McDannald and others completed No. 1 Mitchell as a dry gasser at a plugged back depth of 3,283 feet. The shut-in and tubing pressure were equalized at 1,530 pounds. No. 1 Mitchell was an old well drilled in 1933 and temporarily abandoned after drilling to a depth of 6,875 feet. The gas is being used as fuel for No. 1 Priesmeyer, one-half mile northwest in the Charles Riley Survey. The well is on a 5,500-acre block with interest being owned by Shell Petroleum Corp. and J. R. Black. In the southern part of the county west of the Withers field about 2 miles, Texas Co. opened its third strike on the Pierce estate with the completion of No. 1-B Pierce for an estimated 2,000,000-foot gas well. Production is from sand bottomed at 5,537 feet and location has been made for No. 2-B Pierce.

FAIRBANKS POOL

The Fairbanks Prospect located 14 miles northwest of Houston in the W.C.R.R. Survey, Harris County, was proven for commercial production from the Cockfield sand by the completion of Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Dopslauf which was completed at a plugged back depth of 6,850 feet through perforated casing at 6,829-33 feet. On a 24-hour gauge through a quarter-inch choke it flowed 128 bbls. of 44.8-gravity oil with tubing pressure 2,350 pounds and casing pressure 2,490 pounds. The original depth of the hole was 7,520 feet and the well was completed June 8. This prospect had been looked upon favorably for a number of years and has received numerous tests, all of which encountered encouraging showings of oil and gas. Principal acreage holders other than the operators are Humble Oil & Refining Co. and R. A. Johnson.

"SHALLOW" PRODUCTION

The first 3,000-foot production to be developed on the Gulf Coast within several years was found at Green Lake, southwestern Galveston County, where Sun Oil Co. No. 1 J. D. Hughes located in the W. C. M. Baker Survey, flowed 275 bbls. daily and 10 per cent salt water from the basal Pliocene sand at 3,610-20 feet. Gravity of the oil tested 25.84 degrees. Due to the encroachment of salt water the well was killed and the operators were attempting to recomplete after making a series of "squeeze out" cement jobs. The hole was scheduled to be drilled to the Frio sand, but after reaching a depth of 9,612 feet, a section of the hole was lost due to heaving shale and the hole was being prepared for abandonment before an electrical coring test indicated the present sand.

Magnolia Petroleum Co. No. 1 Broussard, located in north central Cameron Parish, Louisiana, proved up the Big Lake prospect as a distillate field January 5 when it was brought in from a plugged back depth of 7,966 feet for an initial production of 20,000,000 feet of gas and 18 bbls. of distillate per day. It was completed through a sixteen-sixty-fourths inch choke with tubing pressure 2,925 pounds. It is located on a block of 17,000 acres in section 13-12s-8w, and was originally drilled to 9,501 feet with the producing sand found by means of an electrical coring test. At the close of June, the same company was preparing to test No. 1 Hebert located a half mile to the

Texas (Upper District Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
LIBERTY:							
Daily average	706	667	634	689	703	687	
Month	21,886	19,347	19,657	20,674	21,799	20,605	123,968
LIVINGSTON:							
Daily average	2,755	2,714	2,994	3,063	3,059	3,312	
Month	85,409	78,703	92,811	91,886	94,826	99,366	543,001
LOST LAKE:							
Daily average	233	234	234	235	235	237	
Month	7,227	6,499	7,257	7,052	7,288	7,104	42,427
LOUISE:							
Daily average	1,450	1,405	1,421	1,469	1,514	1,536	
Month	44,946	40,742	44,056	44,068	46,937	46,087	266,836
MANVEL:							
Daily average	5,000	7,179	7,377	10,121	9,575	8,637	
Month	155,004	208,194	228,682	303,633	296,822	259,103	1,451,438
MARKHAM:							
Daily average	1,164	1,164	1,424	1,386	1,402	1,413	
Month	36,080	33,754	44,142	41,577	43,466	42,398	241,417
MYKAWA:							
Daily average	3,477	3,570	4,333	3,967	3,224	3,535	
Month	107,783	103,536	134,325	119,014	99,940	106,042	670,640
NORTH DAYTON:							
Daily average	143	142	142	142	140	151	
Month	4,437	4,114	4,401	4,266	4,342	4,521	26,081
OLD OCEAN:							
Daily average	422	417	417	421	418	395	
Month	13,078	12,126	12,924	12,624	12,959	11,851	75,562
ORANGE:							
Daily average	693	708	770	651	668	666	
Month	21,487	20,536	23,873	19,531	20,707	19,979	126,113
ORCHARD:							
Daily average	549	625	577	504	538	552	
Month	17,015	18,121	17,889	15,119	16,674	16,562	101,380
PICKETT RIDGE:							
Daily average	688	908	1,215	1,649	2,008	2,246	
Month	21,332	26,331	37,662	49,465	62,251	67,383	264,424
PIERCE JUNCTION:							
Daily average	3,969	3,698	2,988	3,142	3,360	3,027	
Month	123,035	107,243	92,626	94,265	104,164	90,808	612,141
PORT NECHES:							
Daily average	1,815	1,744	1,800	1,801	1,739	1,674	
Month	56,269	50,579	55,803	54,032	53,906	50,217	320,806
RACCOON BEND:							
Daily average	4,875	4,762	4,866	5,923	5,839	5,583	
Month	151,121	138,095	150,844	177,688	181,005	167,494	966,247
SARATOGA:							
Daily average	880	881	896	1,012	1,084	1,091	
Month	27,276	25,544	27,772	30,352	33,608	32,735	177,287
SOUR LAKE:							
Daily average	1,732	1,722	1,671	1,671	1,551	1,633	
Month	53,696	49,940	51,804	50,134	48,084	48,984	302,642
SOUTH BAY CITY:							
Daily average	.....	.....	173	160	159	152	
Month	.....	.....	5,361	4,796	4,926	4,567	19,650
SOUTH HOUSTON:							
Daily average	909	832	1,330	1,715	2,357	2,496	
Month	28,175	24,124	41,232	51,452	73,064	74,873	292,920
SPINDLETOP:							
Daily average	2,178	2,242	2,486	2,689	2,583	2,262	
Month	67,514	65,016	77,062	80,668	80,076	67,868	438,204
SUGARLAND:							
Daily average	5,580	5,580	5,580	5,580	5,580	5,213	
Month	172,984	161,832	172,984	167,409	172,983	156,382	1,004,564
THOMPSON:							
Daily average	8,903	10,692	10,651	10,335	10,181	10,068	
Month	276,144	310,064	330,186	310,041	315,608	302,049	1,844,092
TOMBALL:							
Daily average	6,305	6,425	6,398	7,329	7,538	7,367	
Month	195,459	186,329	198,333	219,873	233,679	221,001	1,254,674
TURTLE BAY:							
Daily average	82	156	236	162	38	426	
Month	2,546	4,521	7,313	4,857	1,177	12,781	33,195
VAN VLECK:							
Daily average	341	438	632	836	849	1,434	
Month	10,567	12,705	19,595	25,089	26,313	43,019	137,288
WEST COLUMBIA:							
Daily average	2,361	2,372	2,341	2,001	2,721	1,561	
Month	73,188	68,785	72,574	60,025	53,354	46,832	374,758
WITHERS:							
Daily average	33	66	185	458	652	712	
Month	1,023	1,917	5,732	13,736	20,215	21,358	63,981
MISCELLANEOUS:							
Daily average	237	180	164	158	127	317	
Month	7,360	5,217	5,086	4,726	3,947	9,522	35,858
Daily average Texas Gulf Coast (Upper District)	158,355	164,013	169,952	179,526	181,299	181,011	
Total Texas Gulf Coast (Upper District)	4,909,001	4,756,377	5,268,512	5,385,780	5,620,269	5,430,330	31,370,269
Same period 1935	4,690,021	4,187,176	4,738,908	4,556,400	4,602,142	4,919,970	27,694,617

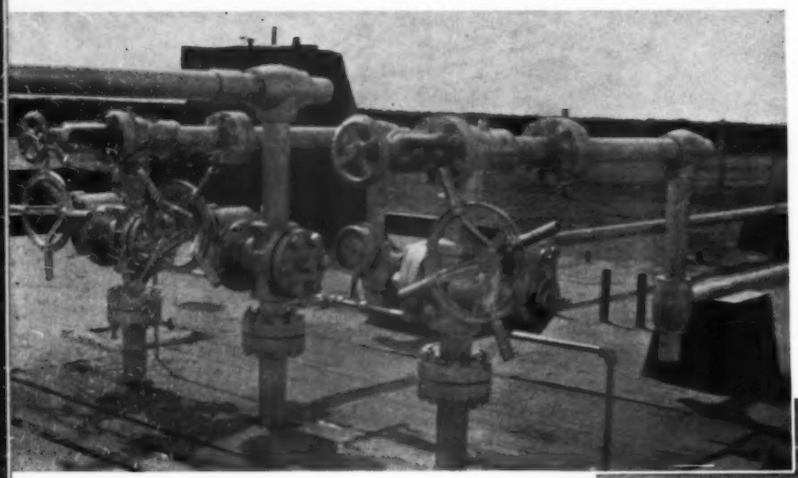
Fields listed above as miscellaneous, with their production for six months, include Ace, 16,092 bbls.; Allen, 2,517 bbls.; Beulah, 393 bbls.; Brenham, 3,840 bbls.; Cotton Lake, 332 bbls.; Huntington, 374 bbls.; Moss Bluff, 10,691 bbls.; Nash, 7,158 bbls.; Rockland, 920 bbls.; San Felipe, 2,294 bbls.; Shepherds Mott, 551 bbls.

NORDSTROM HYPRESEAL

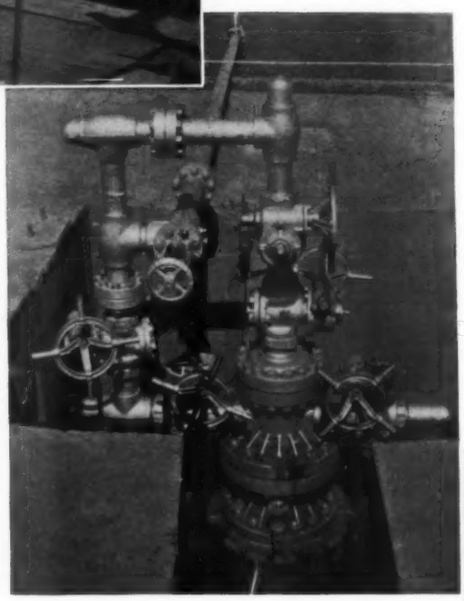
Lubricated Valves

HYPRESEAL TYPE

The Biggest Factor on the Valve Horizon



THE HIGH-PRESSURE VALVES THAT MAKE CHRISTMAS TREES MODERN!

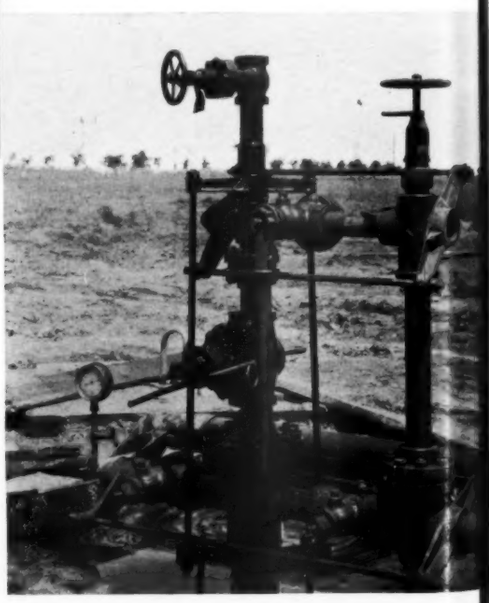


Top photo shows Nordstrom Hypreseal Valves on gas well Christmas tree at Button Willow, Calif. Center photo shows Hypreseals on Christmas tree in the Semi Tropic field, Calif. Lower photo shows type of Christmas tree developed by Nordstrom engineers, widely used in Texas and Oklahoma fields. Embodies round opening valve on tubing head and Hypreseals on flow lines.

ONLY NORDSTROMS MEET EVERY MAJOR VALVE NEED

NORDSTROM HYPRESEAL VALVES

—designed with impervious seal



HERETOFORE all forces within a valve have been taken care of by one exterior means. In ordinary high pressure valves the efforts have been greater than existing materials will withstand. In the perfected Nordstrom Hypreseal Valve two exterior means have been provided, thereby dividing the load taken by each one. The shank which takes a great portion of the load is ***threaded*** into the valve body. These threads carry the load and are positively sealed by the hydraulic pressure of lubricant. Sealing of the plug is effected by means of a steel ball adjusted through an ***impervious*** sealing diaphragm by one single screw. No packing is required. No leakage can exist. No part of the actual plug is at any place exposed to the atmosphere. It is full-floating with respect to line pressures. So rugged has the Hypreseal been made in all details that no field adjustments are normally required. For super valve service, particularly high temperatures and high pressures, the Hypreseal is the solution.

MERCO NORDSTROM VALVE CO. *a subsidiary of* **PITTSBURGH EQUITABLE METER CO.**

Main Offices: Pittsburgh, Penna. Branch Offices: New York City, Buffalo, Philadelphia, Columbia, Memphis, Atlanta, Chicago, Kansas City, Tulsa, Houston, Los Angeles and Oakland.

NORDSTROM VALVES

LUBRICATED PLUG

PATENTED "SEALDPORT" LUBRICATION

east which is bottomed in oil sand at 8,606-18 feet.

DICKINSON FIELD

The south extension area of the Dickinson field, Galveston County, which was proved for distillate production in 1935, received its first oil production by the completion of Coast Petroleum Corp. No. 3 Maco Stewart for an initial production of 600 bbls. per day through a quarter-inch choke with tubing and casing pressure equalized at 1,150 pounds. The oil tested 38 gravity and is coming from the Frio sand through perforated casing from 8,535-45 feet. This area is about 3,000 feet southwest of the Dickinson field proper and some are of the opinion that this area is a separate pool while others believe it to be one large structure with production being spotted due to a faulted condition. This area is located in the W. K. Wilson Survey and recently received its second oiler by the completion of Kenben Oil Co. No. 1 Maco Stewart.

Another distillate area that was converted into an oil field is Ace, in southern Polk County, where Dick Schwab completed No. 1-A Kirby Lumber Co. for an initial production of 349 bbls. of 40.5-gravity oil per day through a quarter-inch choke with tubing pressure 1,225 pounds and casing pressure 1,465 pounds. The hole is bottomed in the Cockfield sand at 4,816 feet and production was obtained by perforating the casing from 4,806-13 feet. No. 1-A Kirby is located a half mile southeast of the same operators distillate well that was completed in 1933.

Further development was assured the Cotton Lake prospect, northern Chambers County, due to the showing made by Salt Dome-Gem Oil Co. No. 2 A. B. Lawrence located in the Solomon Barrow Survey. It was originally completed in 9 feet of Marginulina sand bottomed at 6,661 feet and flowed 197 bbls. in 21 hours with tubing pressure 450 pounds. Production increased to 20 bbls. per hour and it flowed for only three or four days when salt water broke in and production declined to 3 bbls. per day. It was drilled deeper to a depth below 7,000 feet and was plugged back and tested a second time but showed nothing but salt water and was abandoned.

Indications of the Nome prospect being proven productive was made by Shell Petroleum Corp. No. 1 Carpenter located in the M. Pivoto Survey. On an 11-minute drill-stem test made in the Marginulina sand from 6,005-22 feet 20 stands of 26-gravity oil were recovered with 80 pounds of pressure. The hole is being deepened to the Frio and if nothing of importance is found, the hole will be plugged back and tested. The well is 1¼ miles east of Sun Oil Co. No. 1 Long which has also encountered a strong showing of gas in the Frio sand bottomed at 8,750 feet.

At the Hawkinsville dome, Matagorda County, Sun Oil Co. is believed to have an oil well in the making at its No. 1 Craig located on the east flank of the dome which tested 300 bbls. of 30.4-gravity oil in 20 hours on a drill-stem test made in the Miocene sand through perforated casing from 5,150-75 feet. The well later showed considerable salt water which led the company to make several squeeze-out cement jobs and at the close of June it was scheduled to be tested again. Production was found beneath an "overhang" of salt which was topped at 677 feet and bottomed at 1,058 feet.

Prospects of opening a second field along the "Conroe trend" in Coastal Louisiana seemed bright due to a blow-out at Humble Oil & Refining Co. No. 1 J. A. Bel on the Bel prospect, southwestern Allen Parish. The well blew out and caught fire after encountering a soft formation believed to be in the Cockfield horizon at 7,770 feet. It has been abandoned and drilling operations have started on No. 2 Bel located 933 feet northeast of No. 1 in section 28-6s-7w.

Three additional producing horizons were found at the Gillis field in Calcasieu Parish. Union Sulphur Co. No. 5 Barbe located on the edge of the Calcasieu River in section 11-9s-8w, originally completed in the 6,700-foot sand was plugged back and completed through perforated casing at 6,413-19 feet for an initial production of 500 bbls. per day through a quarter-inch choke. It is producing 300 feet shallower than other wells in this area. In the "Graben" zone between the 6,600-foot and 7,000-foot production, Louisiana and Texas Oil Co. No. 1 M. Buhler was completed through perforated casing from 5,258-62 feet for an initial production of 525 bbls. per day through a quarter-inch choke with tubing pressure 450 pounds and casing pressure 850 pounds. Several wells had previously tested this sand but they made gas and considerable salt water. Location is on a 4½-acre tract in section 11-6s-8w. On the south side of the field Union Sulphur Co. No. 1 State was deepened from the 6,700-foot sand to a depth of 7,528 feet and flowed 555 bbls. per day. It is producing from 5 feet of sand which opens possibility of additional flowing life for wells in this area should their flow from the discovery horizon decline.

The Jeanerette field in St. Mary Parish discovered in 1935 received its second and third producing horizon. Herton Oil Co. No. 1 Carter, 1,250 feet east of production, was completed for a large well through perforated casing at 7,015-55 feet. No. 2 Roane, located south of the discovery, was completed in sand bottomed at approximately 6,600 feet. Four wells are producing from the 6,600-foot sand, one at 7,498 feet.

New producing horizons were opened by the Texas Co. on three old salt domes, all located in Louisiana. They are Leesville, Lafourche Parish, Garden Island, Plaquemines Parish, and Caillou Island in Terrebonne Parish. On Esperson dome, Liberty County, General Crude Oil Co. No. 12 Esperson opened a new sand when it flowed 278 bbls. on a potential test made through a five-sixteenths inch choke. The sand was topped at 2,768 feet and bottomed at 2,788 feet.

TEXAS GULF COAST
Summary of Wells Completed
First Half of 1936

Field—	Comp.	Prod.	Abd.	Gas
Ace	1	349	0	0
Amelia	9	3,040	3	0
Anahuac	59	33,604	3	0

GULF COAST TEXAS

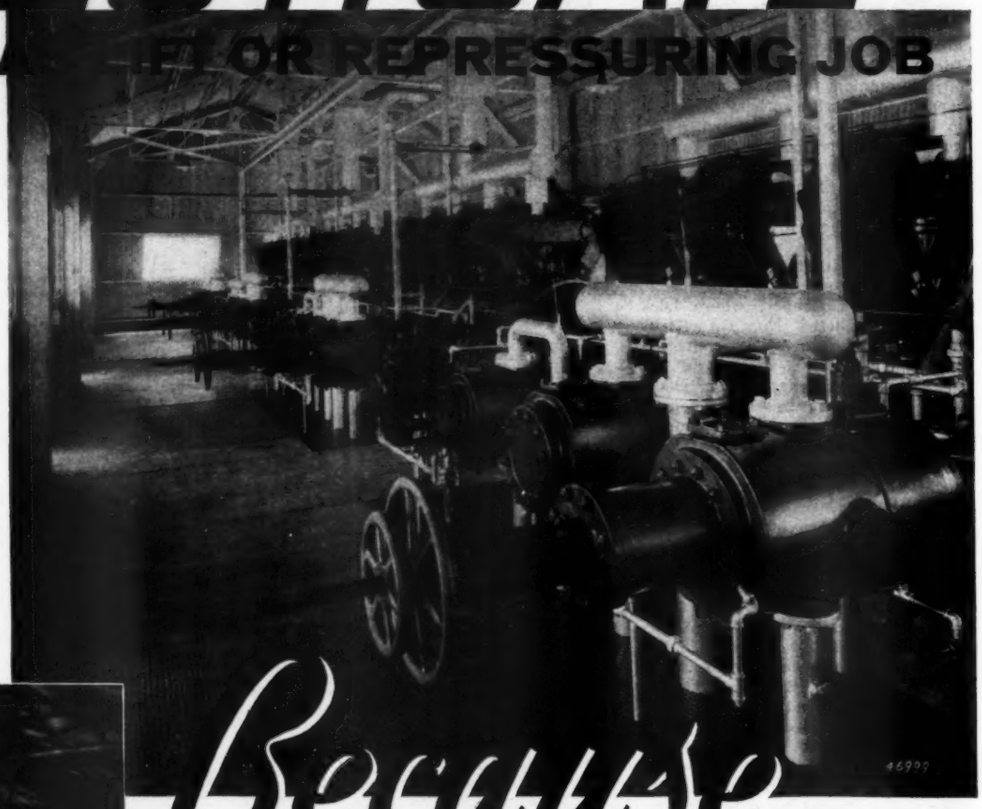
(Lower District)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BALDWIN:							
Daily average	734	771	848	829	808	810	
Month	22,750	22,357	26,286	24,867	25,044	24,304	145,608
BENTONVILLE:							
Daily average	.....	.....	.....	.....	163	153	
Month	.....	.....	.....	.....	5,057	4,586	9,643
CAESAR:							
Daily average	1,058	1,111	1,182	1,070	1,001	993	
Month	32,794	32,214	36,644	32,104	31,035	29,795	194,586
COLETTO CREEK:							
Daily average	705	697	712	778	827	819	
Month	21,851	20,218	22,070	23,336	25,633	24,565	137,673
DIRKS:							
Daily average	4,500	4,112	5,267	5,562	5,616	5,521	
Month	139,504	119,249	163,273	166,855	174,099	165,624	928,604
GRETA:							
Daily average	14,874	15,636	16,103	17,268	16,458	15,687	
Month	461,091	453,152	499,196	518,034	510,196	470,614	2,912,283
KEERAN:							
Daily average	303	286	294	290	313	312	
Month	9,396	8,297	9,111	8,707	9,708	9,365	54,584
MAURITZ:							
Daily average	164	150	143	151	147	139	
Month	5,088	4,350	4,430	4,538	4,555	4,176	27,137
McFADDIN-O'CONNOR:							
Daily average	344	330	297	285	264	258	
Month	10,661	9,574	9,205	8,542	8,186	7,734	53,902
MT. LUCAS:							
Daily average	185	325	272	209	113	110	
Month	5,731	9,417	8,434	6,279	3,506	3,307	36,674
McNEIL:							
Daily average	270	239	183	159	144	134	
Month	8,374	6,935	5,671	4,761	4,461	4,013	34,215
NORTH PETTUS:							
Daily average	1,391	1,386	1,410	1,416	1,612	1,720	
Month	43,125	40,196	43,714	42,479	49,969	51,592	271,075
PETTUS:							
Daily average	1,206	1,214	1,255	1,235	1,217	1,236	
Month	37,389	35,208	38,901	37,052	37,724	37,089	223,363
PLACEDO:							
Daily average	1,719	2,011	2,494	2,786	3,130	3,283	
Month	53,286	58,317	77,318	83,578	97,032	98,481	468,013
PLYMOUTH:							
Daily average	6,429	6,836	7,507	8,296	9,116	9,624	
Month	199,295	198,248	232,713	248,883	282,592	288,721	1,450,452
PORT LAVACA:							
Daily average	787	773	673	572	450	456	
Month	24,393	22,413	20,861	17,247	13,954	13,679	113,547
RAY:							
Daily average	1,754	1,800	1,840	1,839	1,821	1,796	
Month	54,378	52,205	57,042	55,174	56,453	53,882	329,134
REFUGIO:							
Daily average	4,022	4,312	4,685	4,890	5,003	5,139	
Month	124,686	125,043	145,232	146,696	155,091	154,168	850,916
SAXET:							
Daily average	5,970	6,626	7,036	8,200	9,541	10,439	
Month	185,074	192,151	218,119	245,995	295,776	313,167	1,450,282
SAXET HEIGHTS:							
Daily average	594	1,188	2,786	4,465	6,649	7,439	
Month	18,418	34,455	86,363	133,956	206,116	223,174	702,482
SEVIER:							
Daily average	146	130	144	149	148	143	
Month	4,522	3,774	4,467	4,464	4,591	4,286	26,104
TAFT:							
Daily average	152	103	214	260	485	623	
Month	4,716	2,989	6,637	7,793	15,031	18,685	55,851
TOMOCONNOR:							
Daily average	2,806	2,981	3,215	3,338	3,509	3,478	
Month	86,982	86,447	99,662	100,148	108,777	104,346	586,362
TULETA:							
Daily average	1,590	1,564	1,327	1,097	1,077	1,086	
Month	49,296	45,358	41,134	32,902	33,389	32,574	234,653
MISCELLANEOUS:							
Daily average	438	354	391	292	398	570	
Month	13,575	10,258	12,134	8,750	11,931	17,105	73,753
Daily average	52,141	54,925	60,278	65,438	69,907	71,980	
Total first six months 1936	1,614,375	1,592,825	1,868,618	1,963,140	2,169,907	2,159,400	11,370,265
Total first six months 1935	855,662	792,344	930,062	896,310	961,961	925,230	5,361,469

Miscellaneous fields listed, with their total production for six months, include Agua Dulce, 7,482 bbls.; Alta Verde, 2,134 bbls.; Church, 124 bbls.; Dinero, 4,386 bbls.; Foley, 57 bbls.; Fort Merrill, 11,473 bbls.; Grayburg, 3,490 bbls.; Heyser, 4,398 bbls.; Kingsville, 10,906 bbls.; Normana, 2,340 bbls.; Rutledge, 5,400 bbls.; Sinton, 6,102 bbls.; Vanderbilt, 12,636 bbls.; White Point, 3,194 bbls.

INVESTIGATE THE XVG

FOR YOUR GA[illegible]T OR REPRESSURING JOB



TYPE XVG gas-engine-driven compressors offer you a practical and economical solution of production problems.

EVERY XVG of the several hundred now in operation has made a friend of its owner.

Because

1. **Installation costs are low** due to small foundation and building space requirements and easy, simple erection of the units.
2. **Maintenance costs are low** on account of large bearings, simple and reliable lubrication system, and small power cylinders.
3. **Plant availability is high** since all wear is reduced to the minimum and all parts that may need attention are easily accessible.
4. **Plant flexibility is high** as the units are easy to start and stop; they have a wide range of speed control; and units of 60, 125, 190 and 260 Hp. ratings can be installed with a maximum interchangeability of parts.
5. **Costs of moving from one site to another are low** as the units need not be dismantled and reassembled for this purpose.

Ingersoll-Rand

11 BROADWAY, NEW YORK, N. Y. 427-1

Barbers Hill	6	1,589	0	0
Batson	7	1,294	3	0
Big Hill	1	0	1	0
Big Creek	7	155	5	0
Blue Ridge	13	2,460	4	0
Boling	2	538	0	0
Bryan Mound	1	0	1	0
Clay Creek	5	166	3	0
Cleveland	3	348	0	0
Coletto Creek	7	544	4	0
Conroe	18	8,509	3	0
Cotton Lake	1	226	0	0
Damon Mound	5	310	0	0
Dickinson	20	8,987	4	1
Esperson	12	2,083	6	0
Fairbanks	1	128	0	0
Fannett	3	95	1	0
Green Lake	1	125	0	0
Greta	6	1,940	1	0
Hankamer	5	858	1	0
Hardin	2	0	2	0
Hastings	35	20,056	0	0
High Island	6	1,697	0	0
Hull	8	1,876	3	0
Humble	6	837	1	1
Keeran	1	288	0	0
Liberty	2	20	0	0
Livingston	13	4,040	2	0
Lockridge	1	75	0	0
Lost Lake	1	0	0	1
Louise	7	879	0	1
Manvel	22	7,253	5	2
Markham	6	592	3	0
Mauritz	1	0	1	0
Mykawa	5	2,240	1	0
North Dayton	1	0	1	0
Orange	2	0	2	0
Orchard	3	0	3	0
Pickett Ridge	19	6,037	1	2
Pierce Junction	8	3,590	1	0
Placedo	39	10,176	6	1
Port Neches	2	0	2	0
Quintana area	1	1,333	0	0
Raccoon Bend	16	8,756	1	1
Refugio	9	3,004	0	1
Saratoga	3	70	2	0
Shepherds Mott	1	0	1	0
South Bay City	1	230	0	0
South Houston	32	5,881	3	0
Splendora	1	0	1	0
Thompson	1	1,416	0	0
Tomball	41	13,784	1	6
Tomoconnor	9	9,681	0	0
Turtle Bay	4	585	0	0
Van Vleck	5	3,526	0	0
West Withers	1	0	0	1
Withers	7	2,443	0	0
Miscellaneous	68	0	68	0
Total	573	177,713	148	18

Completions by Months

Month—	Comp.	Prod.	Abd.	Gas
January	73	21,959	19	3
February	82	25,746	23	2
March	95	25,546	29	5
April	98	34,119	17	4
May	105	35,170	25	1
June	120	35,173	35	3
Total	573	177,713	148	18

LOUISIANA GULF COAST

Summary of Wells Completed

First Half of 1936

Field—	Comp.	Prod.	Abd.	Gas
Bay St. Elaine	1	0	1	0
Bayou Boullion	1	135	0	0
Bayou Mallet	5	559	1	1
Big Lake	1	0	0	1
Black Bayou	7	2,871	2	0
Caillou Island	8	8,468	0	0
Cameron Meadows	4	912	0	0
Cheneyville	5	891	1	0
Darrow	6	970	4	0
Edgerly	2	30	1	0
Four Isle	2	0	2	0
Garden Island	2	1,345	0	0
Gillis	23	12,181	2	0
Gueydan	1	0	1	0
Hackberry	8	2,206	3	0
Iowa	5	2,329	1	0
Jeanerette	6	4,506	0	0
Jennings	10	2,776	0	0
Lafitte	3	5,181	0	0
Lake Barre	3	3,941	0	0
Lake Hermitage	1	0	1	0
Lake Pelto	1	960	0	0
Leesville	12	8,958	2	0
New Iberia	6	2,153	3	0
Port Barre	6	20	5	0
Roanoke	9	6,913	1	0
St. Martinsville	2	536	1	0
Sorrento	2	672	0	1
Starks	2	98	1	0
Sulphur	11	5,864	1	0
Sweet Lake	1	0	1	0
Tepetate	20	6,403	4	0
Vinton	5	523	3	0
White Castle	2	350	1	0
Miscellaneous	19	0	19	0
Total	202	82,751	62	3

Completions by Months

Month—	Comp.	Prod.	Abd.	Gas
January	28	8,508	11	2
February	23	8,560	8	0
March	43	20,719	13	0
April	30	16,060	8	0
May	33	11,127	11	1
June	45	17,777	11	0
Total	202	82,751	62	3

Gulf Coast Texas and Louisiana

	Comp.	Prod.	Dry	Gas
First half 1936	775	260,464	210	21
First half 1935	690	246,188	223	26
Difference	85	14,276	13	5

LOUISIANA GULF COAST

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
ANSE LA BUTTE:							
Daily average	42	33	50	62	66	63	
Month	1,306	954	1,552	1,861	2,044	1,898	9,615
BAYOU MALLET:							
Daily average	.....	.....	50	101	260	276	
Month	.....	.....	1,550	3,039	8,062	8,272	20,913
BIG LAKE:							
Daily average	.....	33	33	19	18	17	
Month	.....	957	1,023	568	554	501	3,603
BLACK BAYOU:							
Daily average	3,036	3,154	2,526	2,352	3,142	3,534	
Month	94,112	91,469	78,304	70,562	97,406	106,029	537,882
BOSCO:							
Daily average	15,715	15,011	13,617	13,644	14,363	13,639	
Month	487,161	435,316	422,129	409,322	445,250	409,171	2,608,350
CAILLOU ISLAND:							
Daily average	9,723	10,866	10,888	11,582	15,141	16,532	
Month	301,417	315,117	337,526	347,457	469,374	495,969	2,266,850
CAMERON MEADOWS:							
Daily average	5,762	5,576	5,849	5,339	5,763	5,837	
Month	178,626	161,701	181,316	160,174	178,657	175,112	1,035,586
CHENEYVILLE:							
Daily average	163	262	349	489	528	449	
Month	5,057	7,599	10,815	14,675	16,364	13,473	67,983
CHOCTAW:							
Daily average	1,186	1,078	1,050	838	1,055	950	
Month	36,762	31,265	32,553	25,136	32,701	28,498	186,915
DARROW:							
Daily average	942	862	1,184	1,351	1,583	1,498	
Month	29,198	24,997	36,708	40,525	49,077	44,937	225,442
DOG LAKE:							
Daily average	841	851	854	854	821	521	
Month	26,075	24,674	26,477	25,626	25,455	15,634	143,941
EDGERLY:							
Daily average	206	227	218	217	227	225	
Month	6,382	6,588	6,755	6,504	7,033	6,746	40,008
FOUR ISLE:							
Daily average	425	412	360	342	295	37	
Month	13,171	11,947	11,158	10,267	9,147	1,115	56,805
GARDEN ISLAND:							
Daily average	371	721	1,030	1,124	2,238	1,734	
Month	11,505	20,906	31,932	33,713	69,376	52,015	219,447
GILLIS:							
Daily average	12,598	13,199	14,768	15,646	16,791	13,539	
Month	390,534	382,775	457,804	469,388	520,524	406,176	2,627,201
GUEYDAN:							
Daily average	199	195	183	180	183	176	
Month	6,178	5,653	5,677	5,392	5,670	5,274	33,839
HACKBERRY (East):							
Daily average	7,104	6,988	7,452	7,813	8,680	8,584	
Month	226,228	202,654	231,017	234,399	269,084	257,527	1,414,909
HACKBERRY (Old):							
Daily average	326	324	329	304	487	529	
Month	10,102	9,394	10,194	9,111	15,093	15,863	69,757
IOWA:							
Daily average	19,784	18,199	18,278	18,828	19,925	18,639	
Month	613,308	527,773	566,614	564,841	617,678	559,178	3,449,392
JEANERETTE:							
Daily average	669	586	1,595	1,961	2,119	2,615	
Month	20,735	16,997	49,449	58,829	65,686	78,442	290,138
JENNINGS:							
Daily average	1,655	1,714	1,950	2,080	2,229	2,216	
Month	51,301	49,703	60,453	62,402	69,094	66,489	359,442
LAFITTE:							
Daily average	3,150	3,057	3,806	4,537	6,318	6,239	
Month	97,654	88,656	117,989	136,113	195,856	187,171	823,439
LAKE BARRE:							
Daily average	9,265	9,303	9,575	9,747	10,550	7,894	
Month	287,219	269,784	296,822	292,408	327,055	236,811	1,710,099
LAKE HERMITAGE:							
Daily average	117	56	68	49	105	92	
Month	3,623	1,621	2,105	1,467	3,257	2,759	14,832
LAKE PELTO:							
Daily average	450	429	469	899	1,373	335	
Month	13,954	12,444	14,537	26,974	42,658	10,052	120,529
LAKE WASHINGTON:							
Daily average	1,457	1,557	1,416	1,310	1,079	1,008	
Month	45,163	45,151	43,898	39,296	33,444	30,238	237,190
LEESVILLE:							
Daily average	12,869	14,050	13,892	14,442	15,907	13,480	
Month	398,935	407,452	430,656	433,265	493,119	404,403	2,567,830
LOCKPORT:							
Daily average	1,287	1,268	1,217	1,132	1,298	1,212	
Month	39,901	36,774	37,723	33,955	40,236	36,357	224,946
NEW IBERIA:							
Daily average	2,190	2,647	3,068	3,096	2,615	3,271	
Month	67,895	76,761	95,104	92,886	81,068	98,134	511,848
PORT BARRE:							
Daily average	2,769	2,774	2,625	2,232	2,497	2,393	
Month	85,835	80,444	81,379	66,954	77,404	71,936	463,952
ROANOKE:							
Daily average	5,888	5,477	5,784	5,765	7,109	6,893	
Month	182,524	158,835	179,301	172,957	220,376	206,795	1,120,788
SORRENTO:							
Daily average	635	475	452	394	525	500	
Month	19,689	13,778	14,015	11,813	16,278	14,995	90,568
STARKS:							
Daily average	495	471	500	485	523	480	
Month	15,341	13,656	15,496	14,558	16,216	14,406	89,673
ST. MARTINSVILLE:							
Daily average	884	884	860	861	947	867	
Month	27,408	25,639	26,664	25,822	29,354	26,004	160,891
SULPHUR:							
Daily average	2,572	3,272	4,371	5,734	5,024	4,893	
Month	79,736	94,885	135,503	172,029	155,748	146,797	784,698
SWEET LAKE:							
Daily average	1,096	1,043	982	969	1,066	996	
Month	33,972	30,243	30,471	29,061	33,042	29,873	186,662
TEPETATE:							
Daily average	1,749	1,876	2,244	3,491	4,604	3,787	
Month	54,215	54,408	69,567	104,731	142,726	113,618	539,265
VINTON:							
Daily average	2,015	2,036	1,864	1,834	1,997	1,853	
Month	62,469	59,047	57,781	55,019	61,905	55,582	351,803
WELCH:							
Daily average	30	33	34	35	38	35	
Month	933	955	1,056	1,052	1,174	1,059	6,229
WHITE CASTLE:							
Daily average	773	755	775	699	632	567	
Month	23,959	21,894	24,023	20,968	19,596	17,001	127,441
Daily average	130,438	131,754	136,616	142,837	160,121	148,410	
Total first six months 1936	4,043,578	3,820,866	4,235,096	4,285,110	4,963,751	4,452,300	25,800,701
Total first six months 1935	2,682,926	2,589,328	2,974,822	3,040,230	3,395,368	3,460,110	18,142,784
TOTAL GULF COAST:							
Total first six months 1936	10,568,954	10,170,068	11,372,226	11,634,030	12,753,927	12,043,030	68,541,235
Total first six months 1935	8,228,609	7,568,848	8,643,792	8,492,940	8,959,471	9,306,310	51,198,970

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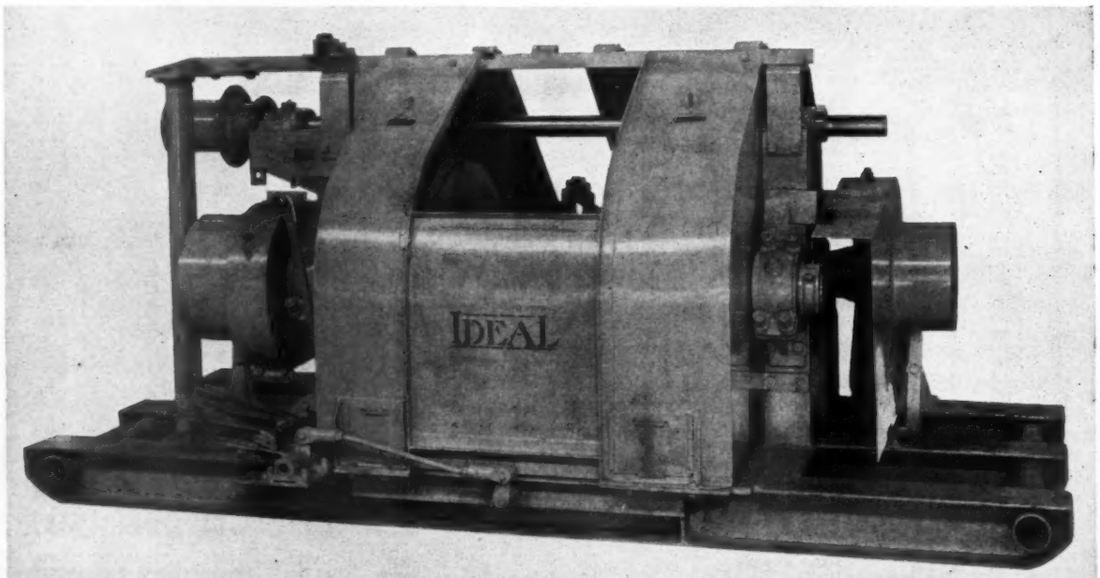

AMERICAN *Heavy Duty* ROLLER BEARINGS

Semi-Annual Review

IMPORTANT DISCOVERIES ARE MADE IN N. LOUISIANA-ARKANSAS

By MITCHELL TUCKER

Extensions to the Rodessa field, both to the east in Caddo County on the Louisiana side, and to the west in Cass County, Texas, featured the development of this pool for the first six months of 1936.

Discovery of oil in the Permian lime at Snow Hill, Ouachita County, Arkansas, in April, 1936, again suggested southern Arkansas as a major oil producing territory. Intensive leasing and geophysical activity followed this discovery.

Recognized as the most important strike in northern Louisiana for the last six months, J. P. Evans and others No. 1 Crichton, section 35-18-9, Webster Parish, proved to be a prolific gas-distillate well from the Middle Trinity formation. Next in importance might be listed the discovery of gas in the Travis Peak formation in Brown, Lide & Greer No. 1 Gardner, section 10-17-4, Lincoln Parish, which came in just at the close of the six-month period.

RODESSA

R. W. Norton No. 1 Haywood, Priscilla Evans Survey, Cass County, Texas, was completed early in January, 1936, to extend the Rodessa field into Texas, and provoke the bi-state problems of control which still remain important issues. This extension well flowed 45 bbls. per hour through one-half inch tubing choke from saturated sand 5,962 to 6,002 feet on initial test.

Shortly thereafter the Rodessa field received its next extension 2 miles to the east upon the completion of Bartex Pipe Line Co. No. 1 Norton, SE NE section 15-23-15. This extension served to bear out the early prediction that the field would be long and narrow, following the fault line to the south. No. 1 Norton stimulated activity for other extensions and within the proven limits, which it established. On initial flow the well produced 30 bbls. per hour through one-sixteenth inch choke from saturated section 5,998 to 6,029 feet.

The Lion Oil Refining Co. gave Rodessa its next extension to the northeast upon completion of No. 1 Wynn, NW SW section 9-23-15, which produced 15,000,000 feet of gas with 15 bbls. of distillate per hour from sand at 6,150-57 feet.

Perhaps of greatest importance was the 4½-mile extension well to the southwest into Cass County, Texas, known as American Liberty Oil Co. No. 1 Rambo in the John Reeves Survey, which flowed an estimated 96 bbls. per day through one-quarter inch tubing choke, with 5,000,000 feet of gas from saturated sand at 5,991-6,011 feet.

Bi-state difference in the manner of proration and conservation caused the Rodessa field to come in for national attention. These problems have not been satisfactorily settled, although the Louisiana daily allowable per well has been twice reduced, bringing the figure from 500 to 275 bbls. per well per day. Texas was quick to follow each reduction in Cass County.

The enormous waste of gas has perhaps created the greatest evil of the Rodessa field. High gas-oil ratio wells are quite common, and as there has been practically no sale for the gas, an inestimable volume of gas has been burned at flares throughout the field in order to permit wells to produce as much distillate as possible, which in some cases has constituted their only source of income.

The discovery of oil at Rodessa found some of the major companies without protection there, and several very large lease purchases followed.

Magnolia Petroleum Co. was first to come into prominence through the "buy-in" route, following its purchase of 5,500 acres, most of which was within proven limits, from R. W. Norton of Shreveport for a reported consideration of $10,000,000 and a one-fourth overriding royalty. Transfer of these properties was not completed until July.

The Magnolia-Norton sale was made the latter part of April, 1936, and was closely followed by the entrance of the Standard Oil Co. of Louisiana through the purchase of all the stock of the Haynes Production Co., Inc., which at that time controlled over 8,000 acres of producing oil lands, much of it in Rodessa, 35 producing wells, five drilling wells, and considerable oil in storage. The consideration for this deal was not announced. Shortly thereafter it was revealed that Gulf Refining Co. had acquired one-half interest in the Standard Oil Co.'s purchase of the Haynes properties.

Considerable speculation followed concerning the probable sale of other smaller individually-held leases, but no other important sales materialized.

FIRST GLEN ROSE PRODUCTION AT SLIGO

Producers Oil & Gas Co. No. 1 Pettitt, section 17-17-11, Bossier Parish, an eastern flank well on the old Sligo gas field, discovered gas and important showings of oil in the Glen Rose, gauging 12,300,000 feet from Oolitic lime at 5,102-99 feet. Three more important tests are now being drilled further down the dip in anticipation of oil production. This was a pioneer test in the Sligo field, as gas heretofore had been coming from the Nacatoch around the 900-foot level.

BIENVILLE PARISH

The completion of Lide and others No. 1 Davis Brothers Lumber Co., section 12-16-5w, as a huge saturated gasser added new impetus to deep wildcatting in the northwest Louisiana area, and may have been partly responsible for the later discovery of gas in the Travis Peak a few miles to the east in section 10-17-4.

This well gauged 70,750,000 feet of highly saturated gas with 2,350 pounds rock pressure from total depth of 6,141 feet, with 7-inch casing set on bottom and perforated at 5,863-70 feet. The pay is from the Oolitic limestone of the Glen Rose. Previous seismograph mapping had indicated a geological high here.

LINCOLN PARISH

Discovery of another prolific gas zone in the Trinity formation in north central Louisiana occurred just at the close of the six-month period. In the Brown, Lide & Greer No. 1 Gardner well, section 10-17-14,

NORTH LOUISIANA

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BELLEVUE:							
Daily average	457	453	433	437	459	461	
Month	14,167	13,137	13,423	13,110	14,229	13,830	81,896
CADDO (light):							
Daily average	4,103	4,088	4,156	4,157	4,069	4,046	
Month	127,193	118,552	128,836	124,710	126,139	121,380	746,810
CADDO (heavy):							
Daily average	2,310	2,311	2,425	2,421	2,492	2,487	
Month	71,610	67,019	75,175	72,630	77,252	74,610	438,296
CONVERSE:							
Daily average	1,212	1,125	1,199	1,202	1,136	1,115	
Month	37,572	32,625	37,169	36,060	35,216	33,450	212,092
COTTON VALLEY:							
Daily average	193	255	336	337	405	472	
Month	5,983	7,395	10,416	10,110	12,555	14,160	60,619
DESOTO-RED RIVER:							
Daily average	1,331	1,299	1,319	1,315	1,325	1,338	
Month	41,261	37,671	40,889	39,450	41,075	40,140	240,486
ELM GROVE:							
Daily average	372	354	407	405	470	469	
Month	11,532	10,266	12,617	12,150	14,570	14,070	75,205
HAYNESVILLE:							
Daily average	3,365	3,366	3,370	3,373	3,419	3,402	
Month	104,315	97,614	104,470	101,190	105,989	102,060	615,638
HOLLY:							
Daily average	152	155	152	151	146	152	
Month	4,712	4,495	4,712	4,530	4,526	4,560	27,535
HOMER:							
Daily average	2,581	2,580	2,508	2,586	2,648	2,648	
Month	80,011	74,820	77,748	77,580	82,088	79,440	471,687
PLEASANT HILL:							
Daily average	165	162	159	155	158	156	
Month	5,115	4,698	4,929	4,650	4,898	4,680	28,970
RODESSA:							
Daily average	29,856	39,995	42,469	42,465	61,483	56,110	
Month	925,536	1,159,855	1,316,539	1,273,950	1,905,973	1,683,300	8,265,153
SAREPTA-CARTERVILLE:							
Daily average	507	505	499	501	427	463	
Month	15,717	14,645	15,469	15,030	13,237	13,890	87,988
URANIA:							
Daily average	2,614	2,650	2,646	2,644	2,865	2,786	
Month	81,034	76,850	82,026	79,320	88,815	83,580	491,625
ZWOLLE:							
Daily average	1,316	1,309	1,211	1,265	1,247	1,112	
Month	40,796	37,961	37,541	39,950	38,657	33,360	226,265
Daily average	50,524	60,607	63,289	63,414	82,749	77,217	66,322
Total first six months 1936	1,566,554	1,757,603	1,961,959	1,902,420	2,565,219	2,316,510	12,070,265
Total first six months 1935	721,897	644,224	711,791	691,590	716,162	693,420	4,179,084
Total first six months 1934	854,577	786,128	842,549	783,240	770,460	769,890	4,806,844
Total first six months 1933	918,933	843,500	981,212	903,660	829,374	759,270	5,235,949
Total first six months 1932	897,295	824,412	866,636	869,580	915,802	895,440	5,269,165

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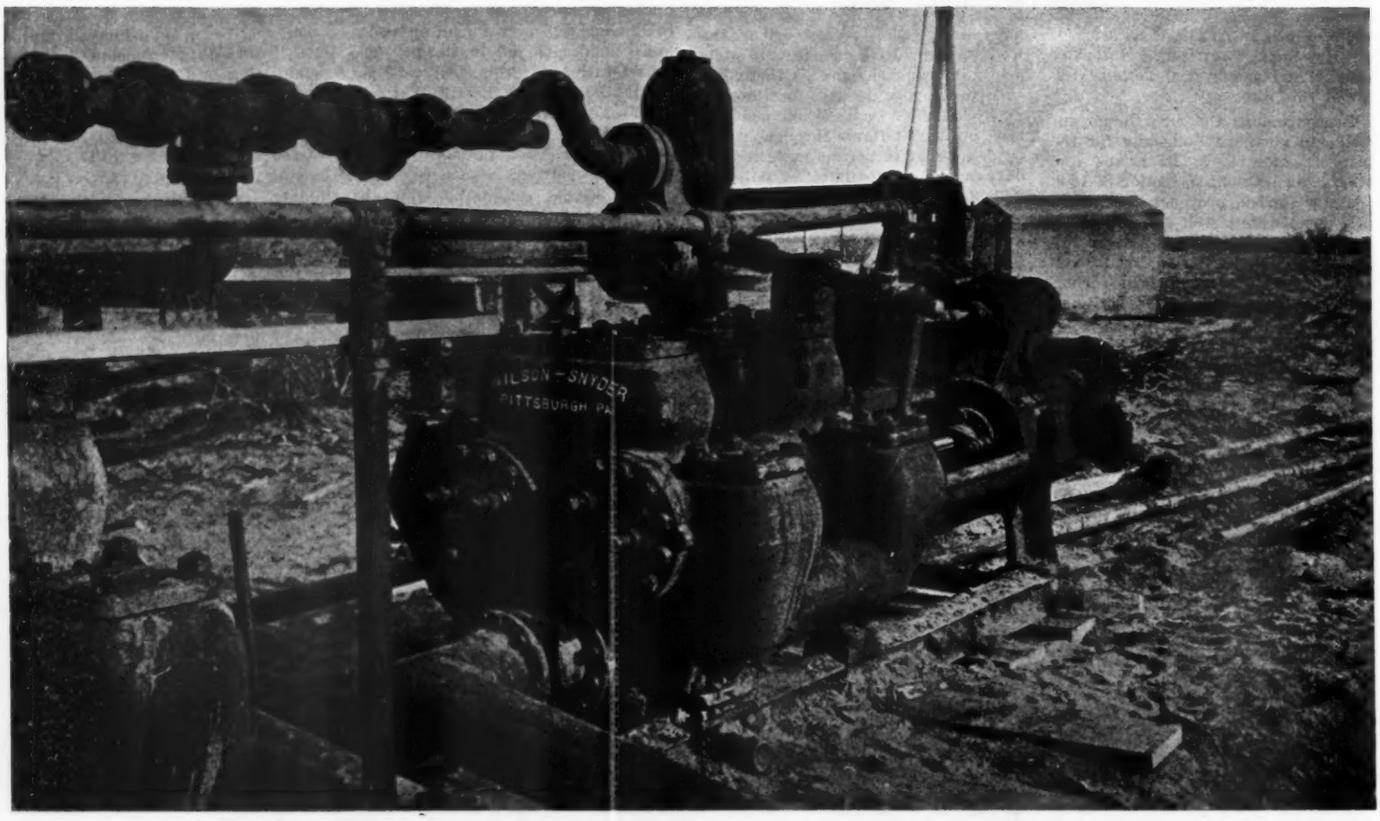

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Lincoln Parish, the Travis Peak proved to be productive, and afforded operators one more objective for future exploratory work in the area. This well gauged 67,634,000 feet of highly saturated gas with 2,600 pounds rock pressure. Production came from the base of the Glen Rose and top of the Travis Peak in 65 feet of broken saturation, bottomed at 6,576 feet. The Arkansas-Louisiana Gas Co., owners of gas rights under the block, assumed control of the property soon after completion of the well.

At a reported consideration of $50,000, the Atlantic Oil Producing Co. purchased from Lide, Greer & Marr the oil rights only in 1,000 acres of this block.

WEBSTER PARISH

Regarded without question as the most important discovery made in the half year, J. P. Evans No. 1 Crichton, section 35-18-9, gauged 80,000,000 to 100,000,000 feet of wet gas, making about 900 gallons of distillate per 1,000,000 feet of gas, open flow. Present total depth of the well is 5,590 feet, having been deepened from 5,532 feet after gauging 7,000,000 feet of gas. The bottom 35 feet of sand (correlated with the Gloyd sand at Rodessa) was highly porous and saturated.

NORTH LOUISIANA

Summary of Wells Completed
First Half of 1936

Parish:	Comp.	Prod.	Dry	Gas*
Bienville	4	0	3	1
Bossier	7	12	5	3
Caddo	202	†263,170	10	2
Caldwell	3	0	3	0
Claiborne	4	0	3	1
DeSoto	12	125	9	1
Grant	5	95	3	0
Jackson	3	0	3	0
LaSalle	4	125	1	0
Lincoln	1	0	1	0
Morehouse	26	0	0	26
Natchitoches	3	0	3	0
Ouachita	5	0	1	4
Red River	3	0	3	0
Sabine	26	1,040	11	0
Union	16	0	0	16
Vernon	1	0	1	0
Webster	2	0	1	1
Winn	1	0	1	0
Total	328	264,567	60	55

*Gas production: Bossier, 103,800,000 feet; Bienville, 70,750,000 feet; Caddo, 500,000 feet; Claiborne, 5,000,000 feet; DeSoto, 25,000,000 feet; Morehouse, 139,000,000 feet; Ouachita, 7,000,000 feet; Union, 110,000,000 feet; Webster, 27,000,000 feet; total, 488,050,000 feet.

†Rodessa wells gauged by making one-hour flow through one-quarter to one-half inch tubing choke, and multiplying by 24.

Completions by Months

	Comp.	Prod.	Dry	Gas
January	48	46,374	10	4
February	47	39,685	13	8
March	47	32,105	9	9
April	54	61,545	9	9
May	80	69,091	7	16
June	52	15,767	12	9
Total	328	264,567	60	55

ARKANSAS

Productivity of the big lime (presumed to be the Permian) in southern Arkansas was first proven in April, 1936, by the Phillips Petroleum Co. No. 1 Reynolds, gas-distillate discovery well, situated in section 27-15-15, Ouachita County, Arkansas, in the Snow Hill area on the northeastern edge of the Smackover field. The Snow Hill area is considered as being a structure entirely separate from Smackover, and is located just south of an east-west fault. Drilling was undertaken here by the Phillips company following detailed seismograph exploration. A drilling geological, geophysical and leasing campaign followed this discovery second only to Rodessa in the Arkansas-Louisiana territory.

At an original total depth of 4,909 feet the Reynolds well gauged 24,270,000 feet of gas and 7 bbls. of high gravity green oil distillate, from porous lime. The well was deepened shortly to 4,926 feet in this same formation, and made an initial test of 50,000,000 feet of gas and about 120 bbls. of 50 to 60 gravity distillate per day. Recent tests show the gravity to have dropped to about 49 degrees, and the production has increased to a capacity flow of about 225 bbls. per day.

This discovery is expected to have far-reaching importance in that it proved that the Paleozoic beds could be satisfactorily mapped by the seismograph, and provided an incentive for much of the activity which followed.

Permian lime elsewhere is known to range from 400 to 800 feet in thickness and contain several prolific producing zones.

ARKANSAS

Summary of Wells Completed
First Half of 1936

County:	Comp.	Prod.	Dry	Gas*
Arkansas	1	0	1	0
Ashley	1	0	1	0
Columbia	1	0	1	0
Clark	1	0	1	0
Garland	1	0	1	0
Hempstead	1	0	1	0
Grant	1	0	1	0
LaFayette	5	0	5	0
Miller	4	100	2	0
Nevada	1	0	1	0
Ouachita	6	315	3	0
Pulaski	1	0	1	0
Sevier	1	0	1	0
Union	21	4,405	9	2
Total	46	4,820	29	2

*Gas production: Union, 270,000 feet.

Completions by Months

	Comp.	Prod.	Dry	Gas
January	14	1,700	10	0
February	3	1,350	1	0
March	7	995	3	1
April	5	130	3	0
May	9	538	6	1
June	8	107	6	0
Total	46	4,820	29	2
Same period 1935	76	4,589	44	2
Difference	30	769	15	0

MISSISSIPPI-ALABAMA

Nine dry holes were drilled in five counties in Mississippi in the first half of the year, and four in Alabama. No oil or gas wells were completed in either state and none of the wells started in Florida were brought to completion in the half year. Following are the summaries for Mississippi and Alabama:

MISSISSIPPI

Summary of Wells Completed
First Half of 1936

County:	Comp.	Prod.	Dry	Gas
Hinds	1	0	1	0
Rankin	3	0	3	0
Warren	2	0	2	0
Wilkinson	2	0	2	0
Winston	1	0	1	0
Total	9	0	9	0

Completions by Months

	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	1	0	1	0
March	2	0	2	0
April	1	0	1	0
May	3	0	3	0
June	1	0	1	0
Total 1936	9	0	9	0
Same period 1935	5	0	5	3
Difference	1	0	4	3

ALABAMA

Summary of Wells Completed
First Half of 1936

County:	Comp.	Prod.	Dry	Gas
Baldwin	1	0	1	0
Houston	1	0	1	0
Lamar	1	0	1	0
Mobile	1	0	1	0
Total	4	0	4	0

Completions by Months

	Comp.	Prod.	Dry	Gas
January	2	0	2	0
March	2	0	2	0
Total 1936	4	0	4	0
Same period 1935	2	0	2	0
Difference	2	0	2	0

EAST TEXAS (BORDER COUNTIES)

Summary of Wells Completed
First Half of 1936

County—	Comp.	Prod.	Dry	Gas*
Bowie	2	0	2	0
Cass	18	17,098	0	0
Harrison	6	0	3	3
Marion	0	0	0	0
Panola	1	0	1	0
Sabine	1	0	1	0
Shelby	3	10	2	0
Total	31	17,108	9	3
Same period 1935	7	0	7	0
Difference	24	17,108	2	3

*Gas production: Harrison (Wascom field), 11,684,000 feet.

Rodessa wells in Cass County gauged by making one-hour flow through one-fourth to one-half inch tubing choke, and multiplying by 24.

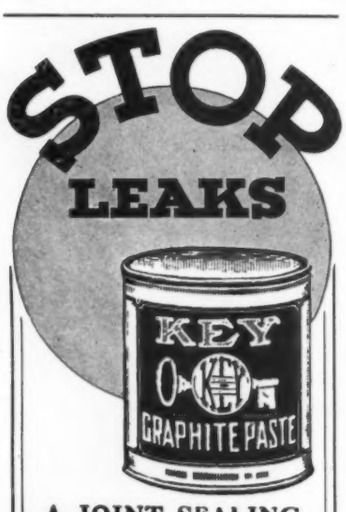
Completions by Months

County—	Comp.	Prod.	Dry	Gas
January	0	0	0	0
February	2	1,728	0	1
March	5	4,552	3	0
April	6	954	3	1
May	11	4,210	2	0
June	7	5,712	1	1
Total	31	17,108	9	3
Same period 1935	7	0	7	0
Difference	24	17,108	2	3

ARKANSAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
CHAMPAGNOLLE:							
Daily average	2,826	2,766	3,455	3,451	3,212	2,933	
Month	87,606	80,214	107,105	103,530	99,572	87,990	566,017
EL DORADO:							
Daily average	2,144	2,135	2,092	2,097	2,113	2,145	
Month	66,464	61,915	64,852	62,910	65,503	64,350	385,994
LISBON:							
Daily average	290	304	296	290	293	299	
Month	8,990	8,816	9,176	8,700	9,083	8,970	53,735
MILLER COUNTY:							
Daily average	1,315	1,228	989	988	1,041	1,017	
Month	40,765	35,612	30,659	29,640	32,271	30,510	199,457
NEVADA:							
Daily average	834	830	807	811	867	878	
Month	25,854	24,070	25,017	24,330	26,877	26,340	152,488
SMACKOVER (light):							
Daily average	2,211	2,145	2,198	2,194	2,145	2,276	
Month	68,541	62,205	68,138	65,820	66,495	68,280	399,479
SMACKOVER (heavy):							
Daily average	17,679	17,540	17,388	17,392	17,758	17,831	
Month	548,049	508,660	539,028	521,760	550,498	534,930	3,202,925
STEPHENS:							
Daily average	625	595	571	565	563	589	
Month	19,375	17,255	17,701	16,950	17,453	17,670	106,404
URBANA:							
Daily average	2,241	2,054	2,069	2,073	1,957	1,863	
Month	69,471	59,566	64,139	62,190	60,667	55,890	371,923
Daily average	30,165	29,597	29,865	29,861	29,949	29,831	29,887
Total first six months 1936	935,115	858,313	925,815	895,830	928,419	894,930	5,439,422
Total first six months 1935	974,175	861,588	950,336	917,520	967,262	933,810	5,604,691
Total first six months 1934	987,412	875,224	958,489	918,810	920,850	923,820	5,584,605
Total first six months 1933	993,457	850,208	943,702	909,120	928,667	901,770	5,556,924
Total first six months 1932	1,101,616	1,008,562	1,062,897	1,048,620	1,064,602	1,022,970	6,309,267



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Semi-Annual Review

DECLINE IN DEVELOPMENT OF OLD CENTRAL WEST FIELDS

By GEORGE A. WHITNEY

The first six months of the year 1936, in the Central West fields, show a total of 253 completions, 1,837 bbls. of new production, 86 dry holes and 107 gassers. In comparison with the totals for the first half of 1935 there is a decrease of 121 completions, a gain of 47 bbls. of new production, a decrease of 32 in dry holes and 66 fewer gas wells. When the completion figures for the two periods are considered, however, even the small increase of 47 bbls. in new production indicates a higher initial production per well.

ILLINOIS FIELD

Summary of Wells Completed
First Half of 1936

Month—	Comp.	Prod.	Dry	Gas
January	5	88	1	0
February	2	57	1	0
March	4	102	2	0
April	4	120	2	0
May	6	179	0	0
June	2	5	0	0
First half 1936	23	551	6	0
First half 1935	9	341	5	0
Difference	14	210	1	0

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Clinton	1	120	0	0
Crawford	7	18	3	0
McCoupin	1	0	1	0
McDonough	4	9	1	0
Lawrence	1	8	0	0
Pope	1	0	1	0
St. Clair	8	396	0	0
First half 1936	23	551	6	0
First half 1935	9	341	5	0
Difference	14	210	1	0

LIMA FIELD

Summary of Wells Completed
First Half of 1936

Month—	Comp.	Prod.	Dry	Gas
January	8	16	2	3
February	3	1	2	0
March	1	0	1	0
April	7	121	0	2
May	2	0	0	2
June	8	25	2	5
First half 1936	29	163	7	12
First half 1935	48	251	12	13
Difference	19	88	5	1

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Putnam	3	105	0	0
Hardin	7	5	2	3
Seneca	8	2	2	5
Wyandot	3	0	2	1
Harrison	1	0	1	0
Allen	2	25	0	0
Ottawa	1	20	0	0
Sandusky	3	6	0	2
Wood	1	0	0	1
First half 1936	29	163	7	12
First half 1935	48	251	12	13
Difference	19	88	5	1

INDIANA FIELD

Summary of Wells Completed
First Half of 1936

Month—	Comp.	Prod.	Dry	Gas
January	19	53	9	6
February	9	15	7	1
March	7	60	5	1
April	22	295	9	5
May	9	20	5	3
June	16	285	4	7
First half 1936	82	728	39	23
First half 1935	98	408	37	46
Difference	16	320	2	23

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Daviess	7	15	3	3
Decatur	3	0	0	3
Gibson	5	140	4	0
Knox	14	35	7	3
Perry	16	53	7	6
Pike	11	140	2	6
Spencer	8	10	7	0
Vandenburg	12	310	6	0
Hancock	2	0	0	2
Dubois	1	0	1	0
Sullivan	2	0	2	0
Huntington	1	25	0	0
First half 1936	82	728	39	23
First half 1935	98	408	37	46
Difference	16	320	2	23

KENTUCKY FIELDS

Summary of Wells Completed
First Half of 1936

Month—	Comp.	Prod.	Dry	Gas
January	20	684	8	2
February	5	538	1	0
March	22	1,788	5	0
April	21	575	15	3
May	18	743	7	0
June	25	736	8	0
First half 1936	111	5,064	44	5
First half 1935	113	3,464	32	9
Difference	2	1,600	12	4

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Ohio	36	641	17	1
McLean	65	3,738	26	2
Hancock	2	0	0	2
Warren	2	430	0	0
Henderson	4	125	1	0
Muhlenburg	2	130	0	0
First half 1936	111	5,064	44	5
First half 1935	113	3,464	32	9
Difference	2	1,600	12	4

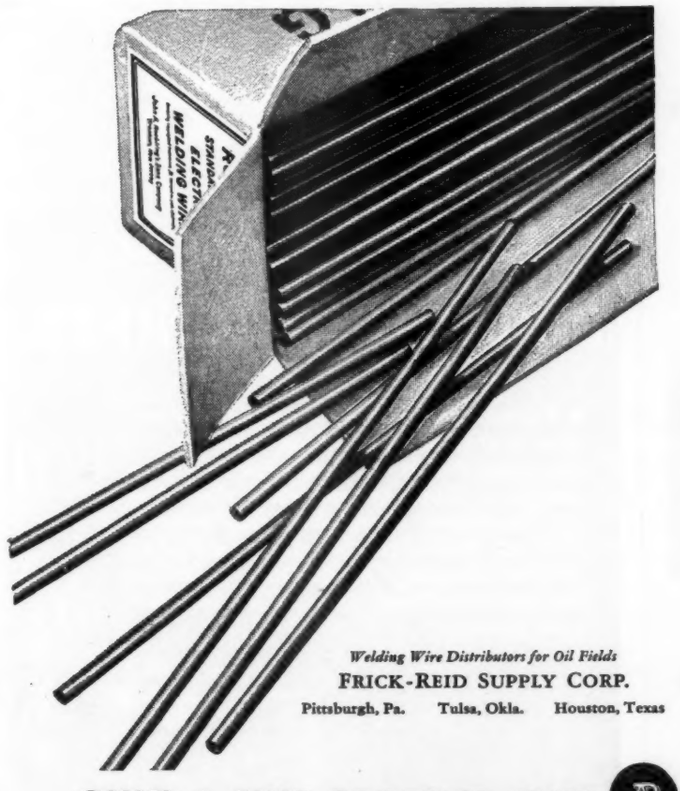
CENTRAL OHIO FIELD

Summary of Wells Completed
First Half of 1936

Month—	Comp.	Prod.	Dry	Gas
January	20	86	4	13
February	21	187	6	13
March	16	5	8	7
April	28	39	8	17
May	17	53	4	10
June	17	25	4	12
First half 1936	119	395	34	72
First half 1935	96	249	29	58
Difference	23	146	5	14

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Ashland	7	44	2	4
Wayne	7	0	0	7
Lorain	9	0	3	6
Cuyahoga	6	117	3	1
Holmes	16	36	5	10
Tuscarawas	6	0	1	5
Summitt	5	1	1	3
Coshocton	9	30	2	6
Stark	26	0	12	14
Fairfield	7	0	1	6
Harrison	1	0	0	1
Hocking	5	43	0	1
Morgan	1	0	0	1
Perry	10	124	3	4
Belmont	1	0	1	0
Richland	2	0	0	2
Pike	1	0	0	1
First half 1936	119	395	34	72
First half 1935	96	249	29	58
Difference	23	146	5	13



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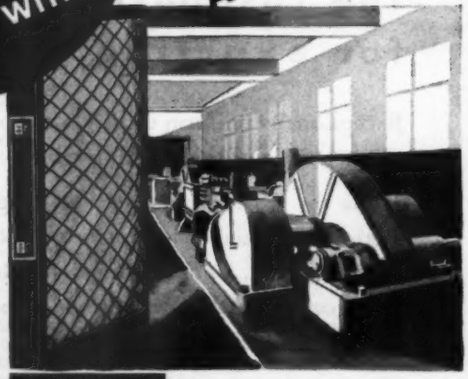

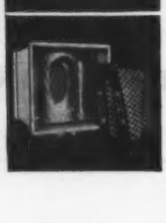

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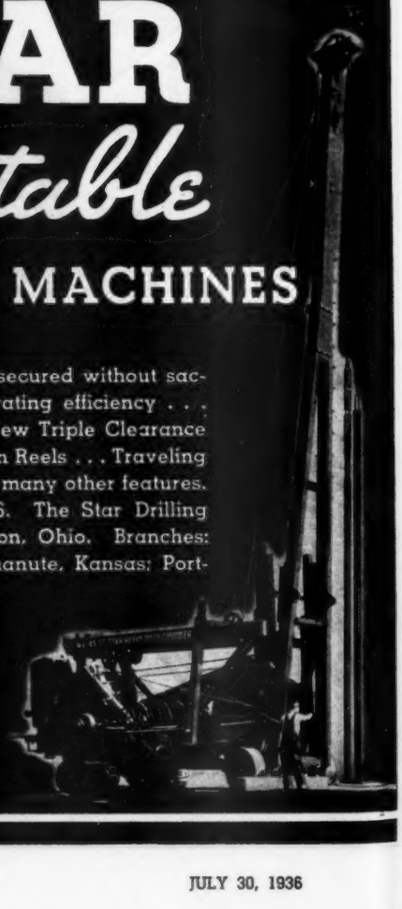

Semi-Annual Review

TWENTY OKLAHOMA WILDCATS OPEN NEW OIL AND GAS RESERVES

By DAL DALRYMPLE

More than 23 per cent of the wildcat wells completed in Oklahoma in the first half year—almost one out of every four drilled—found either oil or gas production where none had been uncovered previously.

In addition, some wells were completed that originally were classed as wildcats, but that later were proven to be extensions of proven fields and were removed from the wildcat lists. Other wells uncovered deep pay sands in old shallow fields and were actually discovery wells but were not included in the 20 wildcat discoveries.

Wildcat operations were listed during the first six months in 46 of the state's 77 counties. The 86 wildcat completions were scattered over 35 counties, with the discovery wells being divided among 15 counties, as follows: Caddo, one oil and one gas well; Carter, two oil wells; Comanche, one gasser; Hughes, one gasser; Kiowa, two oil wells; Lincoln, one oil and one gas well; Logan, one oil well; McIntosh, one gasser; Okfuskee, one gasser; Oklahoma, one oil well; Payne, one gasser; Pontotoc, one oil well; Seminole, one oil well and two gassers; Stephens, one oil well.

Despite the surprisingly favorable showing made by Oklahoma wildcats, the more important developments of the six months were in old fields where deep production was found; in extension and further development of previously proven areas such as Fitts, the Olympic pool and the Capitol extension at Oklahoma City; and in one sector where a gas pool suddenly became one of the most sensational oil pools in Oklahoma—the Moore pool of Cleveland county.

One of the more interesting features of field operations in recent weeks has been the nip and tuck race between the Crescent field of Logan County and the Moore pool of Cleveland County for the distinction of having the biggest producer of 1936.

Moore scored first. The discovery well, Sinclair Prairie Oil Co., and others No. 1 Franklin, SE NW SE section 21-10-2w, drilled in as a huge gasser in June, 1935, was deepened after the discovery of oil in the second Wilcox sand at a nearby well and, early in June this year, it flowed 4,242 bbls. of oil in 3 hours and was rated as the biggest of the year.

Then, late in June, Crescent had its inning. Continental Oil Co. No. 2 McConnell, NW SE SE section 28-17-4w, was completed as a second Wilcox sand producer just five years and eight months after the Crescent pool was discovered, and made potential of 33,928 bbls. to bring the title of biggest 1936 well to Crescent. Since then the title has shifted back to Moore and then again to Crescent, but that is part of the story for the last half of 1936. The finding of deep production at Crescent revived activity in that old pool, albeit the producing area is of small size.

CAPITAL DEVELOPMENT

The big flash of the year has been the intensive development in the Capitol extension of the Oklahoma City field. Operations were carried beyond the northern limits of the city, completions of 10,000 to 20,000-bbl. wells soon became almost daily occurrences, and it looked as though there would be no end to the big play. Early in May Barnsdall Oil Co. provided another spur to drilling in the extension area when it completed its No. 1 Banks-Geyer just north of the city limits, for a potential of 20,139 bbls.

OKLAHOMA

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
WASHINGTON COUNTY:							
Daily average	3,204	2,869	3,570	3,584	3,506	3,540	
Month	99,324	83,201	110,670	107,520	108,686	106,200	615,601
NOWATA COUNTY:							
Daily average	6,157	5,613	7,074	7,738	8,565	8,629	
Month	190,867	162,777	219,294	232,140	265,515	258,870	1,329,463
ROGERS COUNTY:							
Daily average	1,269	1,157	1,819	1,657	1,652	1,671	
Month	39,339	33,553	56,389	49,710	51,212	50,130	280,333
OSAGE AND EASTERN KAY COUNTIES:							
Burbank—							
Daily average	7,375	7,343	7,702	7,701	7,682	7,710	
Month	228,625	212,947	238,762	231,030	238,142	231,300	1,380,806
South Burbank—							
Daily average	11,963	12,641	14,440	16,373	15,179	15,718	
Month	370,853	366,589	447,640	491,190	470,549	471,540	2,618,361
Other Osage Pools—							
Daily average	22,805	23,307	23,810	23,609	23,827	23,837	
Month	706,955	675,903	738,110	708,270	738,637	715,110	4,282,985
TULSA COUNTY:							
Daily average	3,368	3,473	3,961	3,570	3,721	3,872	
Month	104,408	100,717	122,791	107,100	115,351	116,160	666,527
WAGONER COUNTY:							
Daily average	882	828	816	1,196	831	872	
Month	27,342	24,012	25,296	35,880	25,451	26,160	164,141
OKMULGEE COUNTY:							
Daily average	4,576	4,497	5,085	4,609	4,670	4,662	
Month	141,856	130,413	157,635	138,270	144,770	139,860	852,804
MUSKOGEE AND McINTOSH COUNTIES:							
Daily average	981	979	1,061	1,047	992	1,010	
Month	30,411	28,391	32,891	31,410	30,752	30,300	184,155
OKFUSKEE COUNTY:							
Daily average	3,643	3,557	4,528	4,732	4,759	4,711	
Month	112,933	103,211	140,368	141,960	147,529	141,330	787,331
POTTAWATOMIE, SEMINOLE, HUGHES AND PONTOTOC COUNTIES:							
Seminole City—							
Daily average	11,412	10,869	10,607	10,863	11,135	11,513	
Month	353,772	315,201	328,817	325,890	345,185	345,390	2,014,255
East Seminole—							
Daily average	1,674	1,543	1,711	1,960	3,124	3,613	
Month	51,894	44,747	53,041	58,800	96,844	108,540	413,866
Bowlegs—							
Daily average	8,739	10,119	11,614	14,738	13,979	12,916	
Month	270,909	293,451	360,034	442,140	433,349	387,480	2,187,363
Earlsboro and South Earlsboro—							
Daily average	8,213	7,492	8,354	8,282	7,903	8,166	
Month	254,603	217,268	258,974	248,460	244,993	244,980	1,469,278
East Earlsboro—							
Daily average	9,623	9,803	11,273	11,030	10,761	10,916	
Month	298,313	284,287	349,463	330,900	333,591	327,480	1,924,034
Little River and East Little River—							
Daily average	14,927	14,814	14,317	13,863	14,159	14,910	
Month	462,737	429,606	443,827	415,890	438,929	447,300	2,638,289
Searight and North Searight—							
Daily average	3,893	4,011	4,906	5,049	5,405	5,322	
Month	120,683	116,319	152,086	151,470	167,555	159,660	867,773
Mission—							
Daily average	2,650	2,591	2,478	2,570	2,601	2,562	
Month	82,150	75,139	76,818	77,100	80,631	76,860	468,698
Carr City—							
Daily average	4,604	5,597	6,244	7,422	6,867	6,766	
Month	142,724	162,313	193,564	222,660	212,877	202,980	1,137,118
Maud—							
Daily average	952	987	976	948	979	976	
Month	29,512	28,623	30,256	28,440	30,349	29,280	176,460
Wesley—							
Daily average	.....	563	407	349	353	346	
Month	.....	16,327	13,617	10,470	10,943	10,380	60,737
Shawnee—							
Daily average	385	416	464	515	630	611	
Month	11,935	12,064	14,384	15,450	19,530	18,330	91,693
TOTAL SEMINOLE FIELD:							
Daily average	66,687	67,826	72,480	76,725	76,913	77,666	
Month	2,067,297	1,966,954	2,246,880	2,301,750	2,384,303	2,329,950	13,297,134
Conservation—							
Daily average	183	184	165	197	192	194	
Month	5,673	5,336	5,115	5,910	5,952	5,820	33,806
Bethel—							
Daily average	122	107	130	124	109	122	
Month	3,782	3,103	4,030	3,720	3,379	3,660	21,674
Dill—							
Daily average	1,093	989	1,486	1,628	1,708	1,692	
Month	33,883	28,681	46,066	48,840	52,948	50,760	261,178
Grisso—							
Daily average	236	218	198	202	193	196	
Month	7,316	6,322	6,138	6,060	5,983	5,880	37,699
Grayson—							
Daily average	977	901	885	788	744	768	
Month	30,287	26,129	27,435	23,640	23,064	23,040	153,595

(Continued on Next Page)

and there was a big rush to get more wells started at nearby locations. Then, late in May, water began to encroach, small producers on the north and west sides and the fault to the east defined the producing limits, and the big play began to cool off.

DEVELOPMENT OF FITTS

To the southeast of the Fitts, the Jesse pool, in Pontotoc County, opened by Continental Oil Co. in 1935, got its second producer in March and systematic development was continuing in the area. Operators were playing the trend southeast of Jesse into Coal County, and at midyear a Continental well in Coal County found production in a shallow sand but was drilling ahead in quest of deep pay.

Wilcox sand production was discovered on the west side of the old Billings pool, Noble County, in February by Phillips Petroleum Co. and Shell Petroleum Corp. No. 1 McCaughtry, NW NE NE section 21-23-2w, which was completed as a 10,000-bbl. well.

FOX DEEP-SAND PAY

Southern and southwestern Oklahoma continued much in the oil spotlight. An outstanding development was the official completion of Carter Oil Co. and others No. 1 Williams, SW NE SE section 27-2s-3w, about the middle of June. This was the deep pay discovery well in the old Fox field of Carter County that caused statewide excitement when it blew in and ran wild for several days in October, 1935. A difficult fishing job delayed completion for several months and necessitated the drilling of a new hole to pay in the Simpson formation at 8,055 to 8,105 feet. On completion test it produced 3,309 bbls. in 24 hours.

Early in April, southwestern Oklahoma got its biggest oil well to date when Gulf Oil Corp. No. 4 Boucher, SE SW SW section 32-1-19w, in the Tipton area, Jackson County, found Cisco pay at 2,652-54 feet and started new excitement in that area. It flowed 730 bbls. of oil in 3 hours and 30 minutes before shutting in, and in one 16-hour period flowed 2,100 bbls. It was followed by a considerable lease play and a revival of drilling.

The Olympic pool of northwestern Hughes County was extended into Okfuskee County late in February by Manahan & Grisso No. 1 Dalton, SE cor. section 36-10-8, which found Senora sand production. The pool also was extended west into the edge of Seminole County. Most of the production is from Senora sand at around 1,700 to 1,800 feet.

The record of wildcat results for the six months period is summed up in the following table:

NEW POOLS

The first wildcat strike of the year was in Stephens County, at M. T. Cummings No. 1-A Aldridge, NW NE SE section 15-1s-4w. It had sand at 380 to 415 feet, total depth, produced 3 bbls. of oil and 1,500,000 feet of gas and was completed the week ending January 11.

In January Deep Rock Oil Corp. No. 1 Ryan estate, NE SW SW section 34-18-5e, at the north edge of Cushing, in Payne County, had Prue sand at 3,064-90 feet, and produced from 15,000,000 to 25,000,000 feet of gas, starting a small townsite play.

In Seminole County Van Deventer

OKLAHOMA (Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
Yeager—							
Daily average	182	203	169	156	182	179	
Month	5,673	5,887	5,239	4,680	5,642	5,370	32,491
Wofford—							
Daily average	329	386	374	443	449	441	
Month	10,199	11,194	11,594	13,290	13,919	13,230	73,426
Gray—							
Daily average	1,685	1,738	1,656	1,662	1,652	1,616	
Month	52,235	50,402	51,336	49,860	51,212	48,480	303,525
Allen district—							
Daily average	6,746	7,060	7,137	7,910	8,532	9,884	
Month	209,126	204,740	221,247	237,300	264,492	296,520	1,433,425
Asher and West Asher—							
Daily average	913	871	869	838	740	772	
Month	28,303	25,259	26,939	25,140	22,940	23,160	151,741
Olympic—							
Daily average	2,686	4,134	4,820	6,079	7,616	8,016	
Month	83,266	119,886	149,420	182,370	236,096	240,480	1,011,518
St. Louis-Pearson—							
Daily average	21,294	22,170	23,028	25,411	25,337	25,815	
Month	660,114	642,930	713,868	762,330	785,447	774,450	4,339,139
Sasakwa—							
Daily average	1,962	2,110	2,286	2,336	2,868	2,761	
Month	60,822	61,190	70,866	70,080	88,908	82,830	434,696
Fitts—							
Daily average	35,043	42,049	47,737	50,059	54,158	51,802	
Month	1,086,333	1,219,421	1,479,847	1,501,770	1,678,898	1,554,060	8,520,329
Sasakwa Townsite—							
Daily average	1,328	1,156	1,022	965	905	881	
Month	41,168	33,524	31,682	28,950	28,055	26,430	189,809
Beebe—							
Daily average	3,299	3,072	3,373	3,159	2,707	2,816	
Month	102,269	89,088	104,563	94,770	83,917	84,480	559,087
Wewoka—							
Daily average	3,990	3,789	3,972	4,033	3,988	4,019	
Month	123,690	109,881	123,132	120,990	123,628	120,570	721,891
Cromwell—							
Daily average	3,886	3,559	3,863	3,722	3,807	3,816	
Month	120,466	103,211	119,753	111,660	118,017	114,480	687,587
Papoose-Gilcrease—							
Daily average	1,080	1,067	1,134	1,102	1,093	1,086	
Month	33,480	30,943	35,154	33,060	33,883	32,580	199,100
Holdenville—							
Daily average	1,301	1,241	1,277	1,150	1,182	1,116	
Month	40,331	35,989	39,587	34,500	36,642	33,480	220,529
Fish—							
Daily average	10,528	10,362	10,040	9,903	9,718	8,992	
Month	326,368	300,498	311,240	297,090	301,258	269,760	1,806,214
Konawa—							
Daily average	1,868	1,806	1,843	1,834	1,529	1,746	
Month	57,908	52,374	57,133	55,020	47,399	52,380	322,111
Jesse—							
Daily average	100	184	165	197	535	1,803	
Month	3,100	5,336	5,115	5,910	16,585	54,090	90,136
Keokuk—							
Daily average	2,031	2,281	2,367	2,499	2,623	2,615	
Month	62,961	66,149	73,377	74,970	81,313	78,450	437,220
South Keokuk—							
Daily average	1,752	2,161	2,670	3,016	3,208	3,866	
Month	54,312	62,669	82,770	90,480	99,448	115,980	505,659
Miscellaneous—							
Daily average	480	493	518	540	523	541	
Month	14,880	14,297	15,810	16,200	16,213	16,230	93,630
CREEK COUNTY:							
Glenn Pool, Sapulpa and Kiefer—							
Daily average	4,949	5,011	4,919	5,116	4,910	4,880	
Month	153,419	145,319	152,489	153,480	152,210	146,400	903,317
Cushing-Shamrock—							
Daily average	11,680	11,429	11,664	11,621	11,827	11,816	
Month	362,080	331,441	361,584	348,630	366,637	354,480	2,124,852
Bristow and Slick—							
Daily average	8,342	8,185	8,624	8,458	8,510	8,455	
Month	258,633	237,365	267,344	253,740	263,810	253,650	1,534,542
Mounds and Miscellaneous—							
Daily average	611	620	610	616	601	592	
Month	18,941	17,980	18,910	18,480	18,631	17,760	110,702
PAWNEE, PAYNE AND CREEK COUNTIES:							
Yale, Maramec and Jennings—							
Daily average	4,056	4,042	4,147	4,034	3,923	3,906	
Month	125,736	117,218	128,557	121,020	121,613	117,180	731,324
Masham-Ralston—							
Daily average	115	97	107	108	104	111	
Month	3,565	2,813	3,317	3,240	3,224	3,330	19,489
Ripley-Meehan—							
Daily average	166	221	222	216	205	213	
Month	5,146	6,409	6,882	6,480	6,355	6,390	37,662
Watchorn—							
Daily average	176	205	179	207	211	202	
Month	5,456	5,945	5,549	6,210	6,541	6,060	35,761
Cleveland-Keystone, Olive and Mannford—							
Daily average	4,864	4,890	4,870	4,861	4,856	4,848	
Month	150,784	141,810	150,970	145,830	150,536	145,440	885,370
Stillwater—							
Daily average	404	400	466	998	1,054	1,017	
Month	12,524	11,600	14,446	29,940	32,674	30,510	131,694
OKLAHOMA COUNTY:							
Oklahoma City—							
Daily average	135,365	136,963	132,577	144,310	139,811	137,400	
Month	4,196,315	3,971,927	4,109,887	4,329,300	4,334,141	4,122,000	25,063,570
Edmond—							
Daily average	6,762	9,175	10,881	12,573	12,142	11,989	
Month	209,622	266,075	337,311	377,190	376,402	359,670	1,926,270
Britton-North Britton—							
Daily average	868	1,606	1,498	2,061	2,253	2,210	
Month	26,908	46,574	46,438	61,830	69,843	66,300	317,893
LINCOLN COUNTY:							
Davenport-Kendrick—							
Daily average	674	611	667	672	660	646	
Month	20,894	17,719	20,677	20,160	20,460	19,380	3,930
Chandler—							
Daily average	3,935	3,876	4,231	4,023	4,345	4,117	
Month	121,985	112,404	131,161	120,690	134,695	123,510	744,445
Stroud-Skellyville—							
Daily average	636	629	646	652	647	651	
Month	19,716	18,241	20,026	19,560	20,057	19,530	117,130
Gessman—							
Daily average	162	143	156	160	158	159	
Month	5,022	4,147	4,836	4,800	4,898	4,770	28,473
Wilzetta—							
Daily average	468	453	442	453	436	432	
Month	14,508	13,137	13,702	13,590	13,516	12,960	81,413
Lafoon—							
Daily average	446	906	629	686	1,318	1,076	
Month	13,826	26,274	19,499	20,580	40,858	32,280	153,317
KAY, GRANT AND NOBLE COUNTIES:							
Blackwell, Deer Creek, Otstot and Webb—							
Daily average	1,034	1,073	1,085	1,131	1,042	1,073	
Month	32,054	31,117	33,635	33,930	32,302	32,190	195,228

(Continued on Page 161)

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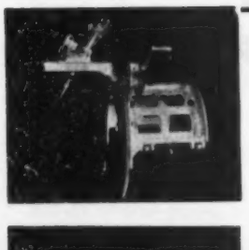

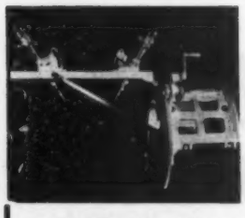

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No. 1-A Bender, NE NE SW section 3-8-8, an old wildcat northeast of Wewoka was deepened from 3,254 feet. It had Cromwell sand at 3,364-74 feet, total depth, and on completion gauge produced 15,887,000 feet of gas.

Texas Co. No. 1 Andrew, NW NE SE section 28-14-5, northeast of Sparks in Lincoln County, had Prue sand at 3,580 to 3,925 feet; total depth, 4,188 feet. It was plugged back to 3,925 feet, produced 2,000,000 feet of gas and was completed the week ending February 22. In the same week William J. Sherry and others No. 1 Washington, SW SW NE section 21-13-7, in northwestern Okfuskee County, was completed after plugging back to 4,130 feet and acidizing. It produced 9,800,000 feet of gas, with 1,400 pounds rock pressure. Hunton lime was topped at 4,105 feet and based at 4,130 feet, which was top of Sylvan shale. Total depth was 4,349 feet.

W. C. Adams and others No. 3 Stone, C SE NE section 34-7-17w, Kiowa County, topped Viola lime at 880 feet, with oil showing at 883 to 1,000 feet. Water sand was topped at 1,390 feet, it was bottomed at 1,547 feet, plugged back to 960 feet, pumped 25 bbls. of oil in 24 hours and completed the week ending February 29.

In the same week Schermerhorn Oil Co. No. 1 Clowdus, NW NW NE section 2-4s-2w, northeast of the Hewitt field and southeast of the Wheeler area in Carter County found Granite Wash at 972 feet; pay sand at 1,014-17 feet; total depth, 1,019 feet. It was completed as a 6-bbl. pumper.

It was M. H. Halsey No. 1-A Eastep, NW NW SW section 11-8-9, in the Yeager area, Hughes County, had Booch sand at 2,665 to 3,412 feet; Cromwell sand, 3,452-54 feet, total depth. It was plugged back to 3,412 feet in March and produced 7,000,000 feet of gas.

Burns & Moore No. 1 Webster, NE cor. section 2-6-17w, west of Gotebo, Kiowa County, was completed the week ending March 21. It had sand at 450-53 feet; total depth, 458 feet, and pumped 5 bbls. of oil in 24 hours.

In the week ending March 28, Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Crawford, NE NE SE section 35-15-2, west of the Chandler area in Lincoln County, was completed as a Simpson producer after plugging back to 5,150 feet from 5,243 feet, total depth. It produced 25 bbls. of oil with 3,000,000 feet of gas.

RESULTS OF WILDCAT DRILLING IN OKLAHOMA

First Six Months of 1936

	Oil and Gas Wells	Dry Holes	Av. Dep. of Dry Holes
Alfalfa	1	1	7,332
Atoka	0	3	3,886
Beaver	0	1	6,794
Beckham	0	2	2,488
Bryan	0	2	1,048
Caddo	2 (1 gas)	1	10,030
Carter	2	0	0
Coal	0	2	4,350
Comanche	1 (gas)	3	1,101
Creek	0	1	4,025
Garfield	0	1	5,005
Garvin	0	3	4,280
Grant	0	1	6,174
Hughes	1 (gas)	2	1,891
Jackson	0	1	3,200
Jefferson	0	5	3,213
Johnston	0	2	3,340
Kay	0	3	3,407
Kiowa	2	4	782
Lincoln	2 (1 gas)	2	4,570
Logan	1	2	5,491
Marshall	0	3	569
McIntosh	1 (gas)	1	3,570
Noble	0	1	5,142
Okfuskee	1 (gas)	2	2,825
Oklahoma	1	3	6,823
Osage	0	3	2,822
Payne	1 (gas)	1	4,175
Pontotoc	1	3	3,823
Pottawatomie	0	2	3,785
Roger Mills	0	1	6,503
Seminole	3 (2 gas)	3	4,376
Stephens	1	1	1,803
Tillman	0	1	3,274
Total	20	66	
Average depth, oil and gas wells, feet			3,647
Average depth, dry holes, feet			3,902
Percentage of oil wells			12.8
Percentage of gas wells			10.5
Percentage of dry holes			76.7

NEW POOL IN LOGAN

A major strike of the year was completed the week ending April 11, when a new pool was opened west of the shallow Lovell area in northwestern Logan County. Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Eason Oil Co. No. 1 Gragg, SW SW NE section 20-18-4w, was the first really sensational wildcat strike of the year. It was completed at 6,145 feet, total depth, and produced 1,045 bbls. of oil with 40,000,000 feet of gas in 24 hours. It topped Viola lime at 5,835 feet; Dense, 5,860 feet; first Wilcox sand at 5,992 feet; second sand at 6,133 feet.

Another Logan County wildcat completion of the week was in the Seward area, at Sinclair-Prairie Oil Co. and Slick-Urschel Oil Co. No. 1 Koatsch, SW SW SW section 23-15-3w. It flowed at the rate of 65 bbls. of oil a day by heads from the upper Simpson formation. Dolomite was topped at 6,177 feet; total depth, 6,204 feet.

In Comanche County, George Pace and others No. 1 Spencer, SW SW SE section 21-3-10w, wildcat northeast of Lawton, had sandy lime at 1,686 to 1,737 feet; drilled to 4,164 feet, total depth; plugged back to 1,813 feet and produced 1,000,000 feet of gas per day in April.

Mid-Texas Petroleum Co. No. 1 Whitney, SW SW SE section 30-5-4, Pontotoc County, had lime pay at 1,908-46 feet, total depth, and pumped 50 bbls. of oil in 24 hours, in April.

In the Britton district, Oklahoma County, Sinclair-Prairie Oil Co. No. 1 Corbett, NE NW NE section 17-13-3w, was completed the week ending April 25. It had second Wilcox sand at 6,655-95 feet; total depth, 6,733½ feet; plugged back to 6,695 feet and flowed 240 bbls. of oil in 24 hours.

The Stout pool of northwestern Seminole County was opened the week ending May 2 at Amerada Petroleum Corp. and others No. 1 Community Stout, NE NE SW section 3-10-5. It produced 912 bbls. of oil in 24 hours and was completed at 4,438 feet, total depth, in Hunton lime topped at 4,421 feet. The new pool opener was northwest of the North Searight pool, almost on a direct line and midway between the Keokuk and Shawnee pools.

Magnolia Petroleum Co. No. 4 Sames, SW NE NE section 35-6-10w, wildcat at the west end of the Cement area in Caddo County, was completed the week ending May 9. It had sand and lime at 6,494 to 6,573 feet, total depth, and produced 15,280,000 feet of gas.

In that same week Imperial Drilling Co. completed a Seminole County wildcat at No. 1 Aldridge, SW NE NW section 32-9-8, north of Wewoka and south of the Bethel area. It had Calvin sand at 1,869-1,900 feet; water intruded at 1,907 feet, total depth, and it was plugged back to 1,900 feet, where it produced 6,000,000 feet of gas.

After considerable delay, Texas Co. and associates completed No. 1 Cathey, SE NE NE sectiond 6-5s-1w, wildcat south of the Hewitt field in Carter County, the week ending June 6. It

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Well!

one Kept Straight with the **H - K** (Hewitt) (Kuster) **Clinograph**

Anchoring bottom plug nose to instrument.

Records in *single readings*, accurately and automatically by photography, both the amount and the direction of inclination. Uses floating compass not subject to breakage; is self-checking and reliable. Used in *open holes only*. Lowered on a sand or bailing line at a speed ranging from 400 to 800 feet per minute. Records on paper discs are available within five minutes after removing instrument from hole. (U. S. Patents 1,812,994; 2,027,642, and others pending.)

Well!

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The most accurate and reliable method ever devised for making underground surveys of bore holes, providing a true map of the course of the well at all depths, prepared from actual photographic records. Not affected by *Tortuosity* nor by *Magnetic influence* nor *human errors* when recording. Self-checking, makes two surveys in one round trip, one going in and one coming out. Speedy operation, requires less rig time than any other instrument. (U. S. Patents 1,124,608; 1,812,994; 1,959,141; 1,960,038; 2,012,455; 2,012,456, and others pending.)

Well!

one Kept Straight with the **SYFO Clinograph**

Tightening up on SYFO case preparatory to lowering into hole.

Records accurately on paper directly readable, the vertical deviation of a bore hole without the use of dangerous acids. Is speedy, self-checking, simple to operate and inexpensive. Can be used on a wire line or as a "Go-Devil" running inside the drill stem or on sand or bailing line in open hole. (U. S. Patents 1,962,634; 2,013,875, and others pending.)

Photograph below shows sample record made by the H-K. Photographs at right show SURWEL and SYFO Clinograph.

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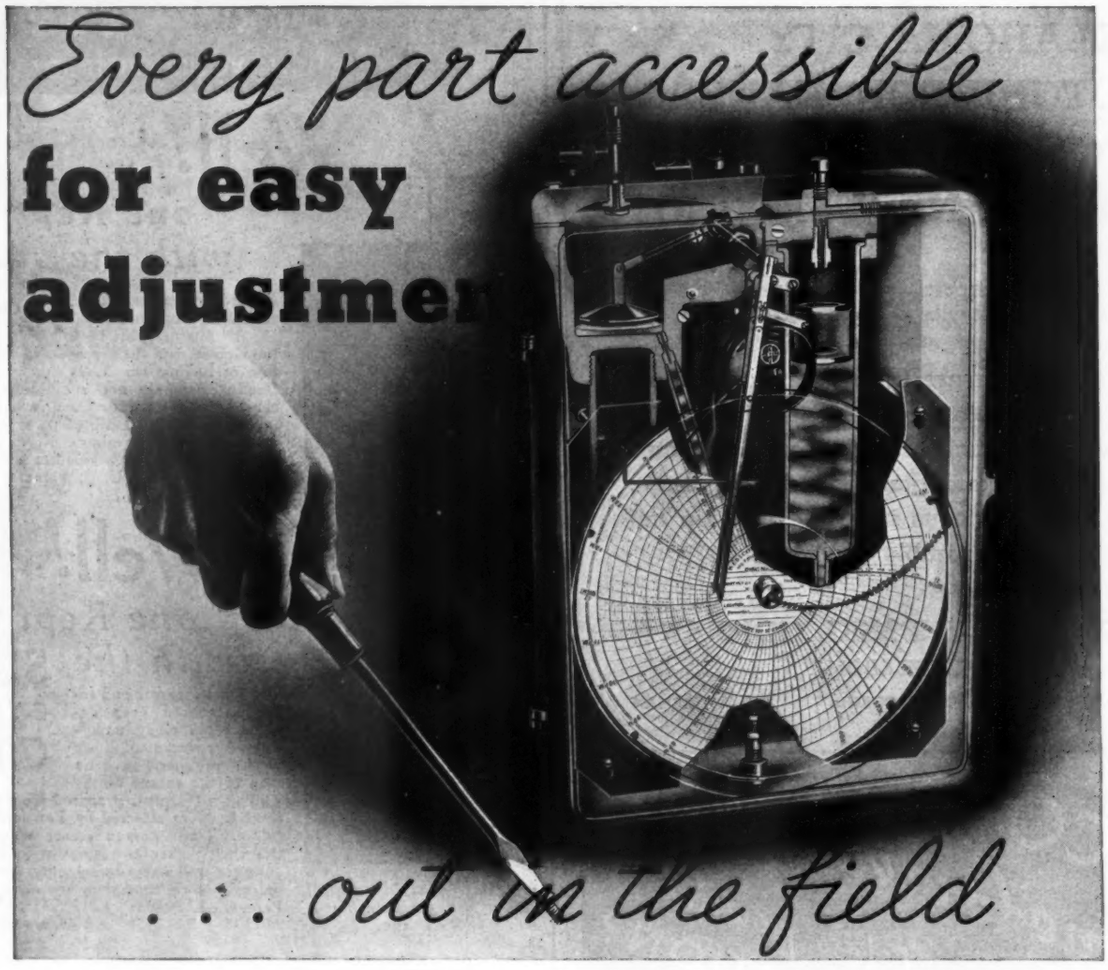

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345

had sand at 4,098-4,155 feet; total depth, 4,191 feet, and pumped 18 bbls. of oil in 24 hours.

One of the more important strikes of the year was completed the week ending June 20 at Marathon Oil Co. No. 4 Marchand, SW SE NW section 2-5-9w, deep pay discovery well in the Cement field of Caddo County. On completion test it flowed 1,077 bbls. of oil in 24 hours, with gas gauging 71,000,000 feet. It opened a new producing sand for the Cement area at 6,285 to 6,357 feet; total depth, 6,367 feet.

The last wildcat discovery well to be completed in the first half of 1936 was Indian Territory Illuminating Oil Co. No. 1 Tancred, SW NW SE section 9-9-14, southwestern McIntosh County. It produced 1,000,000 feet of gas from Gilcrease sand at 2,695-2,731 feet, to which depth it was plugged back after water intruded at 4,566 feet, total depth. It topped Wilcox sand at 4,525 feet.

An old wildcat that was plugged back and recompleted was Pioneer Oil & Gas Co. No. 1 Bayne, SE SW SW section 16-5-6, in northern Pontotoc County. It was plugged back from 3,016 feet, total depth, to 2,760 feet, pumped 7 bbls. of oil in 24 hours.

The deepest test of the year failed to make a commercial producer and was abandoned the week ending May 9. It was the Denver Producing & Refining Co. No. 1 Sah-Cam, C SE SE section 33-10-10w, second deep test to be drilled in the Binger area, Caddo County. It was drilled to 10,084 feet, total depth, swabbed as much as 200 bbls. of oil in three days, swabbed down; failed to get production at plugged-back depth of 8,147 feet and the operators gave it up as a bad job.

OKLAHOMA

Summary of Wells Completed First Six Months, 1936

County—	Comp.	Prod.	Dry	Gas
Alfalfa	1	0	1	0
Atoka	3	0	3	0
Beaver	1	0	1	0
Beckham	3	0	2	1
Bryan	3	0	3	0
Caddo	6	1,077	3	2
Carter	64	6,322	11	3
Cleveland	2	4,244	1	0
Coal	2	0	2	0
Comanche	22	60	16	3
Cotton	6	45	3	0
Creek	76	1,533	26	8
Garfield	3	0	3	0
Garvin	3	0	3	0
Grant	2	0	2	0
Hughes	87	17,621	8	4
Jackson	22	5,226	9	0
Jefferson	13	190	5	0
Johnston	3	0	3	0
Kay	12	20	6	5
Kiowa	11	38	8	0
Lincoln	30	8,504	6	2
Logan	14	9,592	4	0
Marshall	23	248	12	0
McIntosh	2	0	1	1
Muskogee	14	293	8	0
Noble	16	10,846	7	0
Okfuskee	47	4,533	12	4
Oklahoma	99	253,648	6	1
Okmulgee	72	1,159	37	8
Osage	135	52,963	29	4
Pawnee	5	78	1	0
Payne	2	410	1	0
Pittsburg	3	0	2	1
Pontotoc	185	198,531	15	9
Pottawatomie	30	8,110	5	0
Pushmataha	1	0	1	0
Roger Mills	1	0	1	0
Seminole	127	36,606	31	3
Stephens	45	291	16	3
Texas	1	0	0	1
Tillman	1	0	1	0
Tulsa	21	250	10	2
Wagoner	11	41	7	1
Total, 6 mos.	1,220	622,479	332	66

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	223	136,316	62	22
February	145	36,376	31	13
March	161	57,030	43	9
April	213	99,743	59	8
May	207	103,466	57	5
June	271	189,548	75	9
First 6 Mo. 1936	1,220	622,479	332	66
First 6 Mo. 1935	953	514,222	279	56
Difference	267	108,257	53	10

OKLAHOMA (Continued)

Field—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Tl. 6 mos. (bbls)
Dilworth—							
Daily average	545	527	537	551	571	562	
Month	16,895	15,283	16,647	16,530	17,701	16,860	99,916
Ponca City—							
Daily average	265	286	242	295	246	263	
Month	8,215	8,294	7,502	8,850	7,626	7,890	48,377
Mervine-Newkirk—							
Daily average	147	129	142	153	124	137	
Month	4,557	3,741	4,402	4,590	3,844	4,110	25,244
Braman—							
Daily average	1,325	1,351	1,461	1,626	1,557	1,573	
Month	41,075	39,179	45,291	48,780	48,267	47,190	269,782
Hubbard—							
Daily average	685	676	624	621	617	616	
Month	21,236	19,604	19,344	18,630	19,127	18,480	116,420
Thomas—							
Daily average	293	276	296	291	290	293	
Month	9,083	8,004	9,176	8,730	8,990	8,790	52,773
Tonkawa—							
Daily average	2,944	2,888	2,989	2,852	2,767	2,793	
Month	91,264	83,752	92,659	85,560	85,777	83,790	522,802
Billings—							
Daily average	231	769	278	282	471	466	
Month	7,161	22,301	8,618	8,460	14,601	13,980	75,121
Miscellaneous—							
Daily average	317	316	311	315	302	296	
Month	9,827	9,164	9,641	9,450	9,362	8,880	56,324
Lucien—							
Daily average	10,283	10,301	12,481	12,631	13,339	13,411	
Month	318,773	298,729	386,911	378,930	413,509	402,330	2,199,182
Vernon—							
Daily average	481	426	457	489	461	473	
Month	14,911	12,354	14,167	14,670	14,291	14,190	84,583
Polo—							
Daily average	3,166	3,443	3,358	3,422	3,362	3,329	
Month	98,146	99,847	104,098	102,660	104,222	99,870	608,843
GARFIELD COUNTY:							
Garber and Miscellaneous—							
Daily average	1,944	1,875	1,999	2,078	1,974	1,966	
Month	60,264	54,375	61,969	62,340	61,194	58,980	359,122
LOGAN COUNTY:							
Crescent—							
Daily average	4,330	5,246	5,291	4,763	5,241	5,312	
Month	134,230	152,134	164,021	142,890	162,471	159,360	915,106
Langston—							
Daily average	186	156	182	170	94	106	
Month	5,766	4,524	5,642	5,100	2,914	3,180	27,126
Marshall-Lovell—							
Daily average	1,081	1,021	994	1,034	1,113	1,006	
Month	33,511	29,609	30,814	31,020	34,503	30,180	189,637
CARTER COUNTY:							
Healdton—							
Daily average	8,908	8,866	9,231	9,251	9,243	9,236	
Month	276,148	257,114	286,161	277,630	286,533	277,080	1,660,566
Hewitt—							
Daily average	4,487	4,455	4,509	4,514	4,345	4,410	
Month	139,097	129,195	139,779	135,420	134,695	132,300	810,486
Sholem-Alechem—							
Daily average	3,691	3,594	3,736	3,632	3,448	3,411	
Month	114,421	104,226	115,816	108,960	106,888	102,330	652,641
Tatums-North Tatums—							
Daily average	3,603	3,523	3,558	3,394	3,229	3,216	
Month	111,693	102,167	110,298	101,820	100,099	96,480	622,557
Graham-Fox—							
Daily average	3,821	4,189	4,291	4,719	4,212	4,263	
Month	118,451	121,481	133,021	141,570	130,572	127,890	772,985
Brock-Miscellaneous—							
Daily average	387	376	331	365	324	319	
Month	11,997	10,904	10,261	10,950	10,044	9,570	63,726
STEPHENS-COTTON COUNTIES:							
Duncan—							
Daily average	3,943	3,931	4,106	4,110	4,283	4,229	
Month	122,233	113,999	127,286	123,300	132,773	126,870	746,461
Loco-Milroy—							
Daily average	369	380	407	420	456	448	
Month	11,439	11,020	12,617	12,600	14,136	13,440	75,252
Kilgore—							
Daily average	114	111	118	117	116	118	
Month	3,534	3,219	3,658	3,510	3,596	3,540	21,057
Velma-Walters—							
Daily average	817	879	939	829	912	893	
Month	25,327	25,491	29,109	24,870	28,272	26,790	159,859
Walters—							
Daily average	987	1,068	1,119	1,118	1,127	1,152	
Month	30,597	30,972	34,689	33,540	34,937	34,560	199,295
Comanche—							
Daily average	766	763	783	787	737	762	
Month	23,746	22,127	24,273	23,610	22,847	22,860	139,463
Palacine—							
Daily average	92	113	115	110	102	111	
Month	2,852	3,277	3,565	3,300	3,162	3,330	19,486
JEFFERSON COUNTY:							
Daily average	2,032	2,045	2,024	2,061	2,122	2,163	
Month	62,992	59,305	62,744	61,830	65,782	64,890	377,543
GARVIN COUNTY:							
Robberson—							
Daily average	988	1,182	1,258	1,179	1,179	853	
Month	30,628	34,278	38,998	35,370	36,549	25,590	201,413
GRADY COUNTY:							
Knox—							
Daily average	1,487	1,377	1,388	1,475	1,423	1,431	
Month	46,097	39,933	43,028	44,250	44,113	42,930	260,351
MARSHALL COUNTY:							
Daily average	323	560	345	404	442	436	
Month	10,013	16,240	10,695	12,120	13,702	13,080	75,850
CADDO COUNTY:							
Cement—							
Daily average	1,484	1,476	1,404	1,429	1,395	1,489	
Month	46,004	42,804	43,524	42,870	43,245	44,670	263,117
TILLMAN COUNTY:							
Daily average	529	558	464	519	405	470	
Month	16,399	16,182	14,384	15,570	12,555	14,100	89,190
COMANCHE COUNTY:							
Daily average	27	4	11	15	8	11	
Month	837	116	341	450	248	330	2,322
JACKSON COUNTY:							
Daily average	655	788	828	898	942	927	
Month	20,305	22,852	25,668	26,940	29,202	27,810	152,777
CLEVELAND COUNTY:							
Moore—							
Daily average	1,258	1,873	1,223	319	781	825	
Month	38,998	39,817	37,913	9,570	24,211	25,050	175,559
Daily average	493,095	511,194	532,843	559,652	562,341	561,987	536,854
Total first six months 1936	15,285,945	14,824,626	16,518,133	16,786,560	17,432,571	16,859,610	97,707,445
Total first six months 1935	14,926,779	13,668,956	15,401,358	15,346,660	16,012,244	15,674,610	91,029,607
Total first six months 1934	15,053,166	13,345,276	15,166,471	15,370,880	16,060,480	16,127,550	91,123,783
Total first six months 1933	12,550,784	12,570,992	15,455,236	11,720,010	13,521,580	14,339,070	80,157,672
Total first six months 1932	13,664,149	11,806,190	12,998,796	12,718,020	13,169,420	12,757,234	77,113,805
Total first six months 1931	14,850,953	13,531,980	16,627,687	16,815,990	17,333,867	16,678,200	95,838,677

Semi-Annual Review

NORTH-CENTRAL, PANHANDLE TEXAS INCREASED THEIR ACTIVITY

By L. E. BREDBERG

The Central and North Texas district was third in completed work in Texas, in the first half of this year, having been out-ranked by East Texas and Southwest Texas. There were 1,374 tests completed, or 18 more than during the same period in 1935. However, 632 of these tests were dry, whereas in the first six months of 1935 only 574 were failures, which points to the fact that more wildcatting was done this year than last, in the district.

Archer County, the most active in the district last year, showed a big drop in activities this year under the first six months of 1935. This was due to the fact that in 1935 operators were busy drilling up newly opened lime areas in which acid had proven most successful in increasing flush production. As rapid drilling extended and defined those pools during 1935 there was less drilling in the county this year, completions falling off about 50 per cent from the same period in 1935, or to 289 this year. Practically every other county in the North Texas district showed a gain in drilling, as did nearly every county in the Central district, Young County rating second in activities in North Central Texas whereas Shackelford in the Ranger district rated first in drilling and new development work, the western part of this county, being responsible for the greater part of this activity.

NORTH AND CENTRAL TEXAS

Summary of Operations First Six Months 1936

County—	Comp.	Prod.	Dry	Gas
Archer	289	17,081	145	0
Baylor	36	3,505	21	0
Brown	8	70	4	1
Callahan	43	545	27	2
Clay	18	227	12	0
Coleman	7	135	4	0
Comanche	5	25	3	2
Cooke	161	7,865	54	2
Denton	2	0	2	0
Eastland	18	163	11	2
Erath	1	0	1	0
Foard	1	25	0	0
Hamilton	1	0	0	1
Haskell	3	0	3	0
Jack	71	5,925	23	5
McCulloch	1	0	1	0
Montague	56	1,670	13	0
Palo Pinto	6	56	3	0
Shackelford	122	4,847	55	5
Stephens	14	403	6	2
Tarrant	1	0	1	0
Throckmorton	18	76	11	1
Wichita	148	4,437	60	0
Wilbarger	67	3,028	28	0
Wise	1	0	1	0
Young	286	15,810	142	3
Total	1,374	65,943	631	25

Completions by Months

	Comp.	Prod.	Dry	Gas
January	195	10,570	89	2
February	175	5,386	79	4
March	217	8,361	100	3
April	275	17,975	114	6
May	261	12,981	122	1
June	248	10,670	127	5
Total six months	1,374	65,943	631	26
Same period 1935	1,256	58,117	574	20
Difference	118	7,826	57	6

DISCOURAGEMENT IN SHACKELFORD

The De LaFosse ranch, about 10 miles east of Albany, in the eastern part of Shackelford County, proved discouraging this year after an Ellenberger test drilled last year appeared as a high-gravity producer, which had to be junked. It was located in section 1,549, T.E.&L. Survey. After this strike was made Humble Oil & Refining Co. purchased a half interest in the 5,500-acre block from Pitzer & West, the joint owners drilling a second test on the block, to the north of the first. This test was a failure. However, the owners are now preparing to drill a third test on the block. Roeser & Pendleton, Inc., of Fort Worth, also put down a deep failure in the eastern part of Shackelford County, 4 miles northwest of the Ibex pool and about 3½ miles southwest of the two deep De LaFosse tests. It was on a 5,000-acre block assembled by Merry Brothers & Perinie of Abilene.

HAMILTON COUNTY DISCOVERY

Early in the year Seaboard Oil Corp. opened the first producing area in Hamilton County with a well on lands of the L. T. Rhea heirs, 12 miles northwest of the town of Hamilton, in the David Cook Survey. The Marble Falls lime paid off with over 12,000,000 feet of gas at total depth of 2,455 feet. The company then drilled a second test 3,500 feet north of the gas discovery, and on the same 11,000-acre Pottsville block. This was carried to 5,345 feet in quest of production in the Ellenberger lime, but that formation failed to pay off with oil, tools were lost in the hole and it was plugged back to the upper gas horizon at 2,565 feet, where it also was completed for a gas well, making 10,000,000 feet per day. It was located on the Julia Dawson farm, in the B.B.B.&C. Survey.

Hamilton County was the scene of considerable blocking and leasing during the year. Tide Water Oil Co. and Seaboard Oil Corp. being the largest purchasers in the county, some independents and others also taking acreage in various parts of the county on which tests will later be drilled. The discovery of gas in the county did not create much interest, but will lend impetus to future wildcatting.

COOKE COUNTY DISCOVERIES

One of the most important, if not the most important discovery, in the North Texas district during the year, was that of Anderson & Kerr on the Bruhlmeyer farm in the Hiram Stroud Survey, 3 miles east of Gainesville in Cooke County. This discovery came in making 790 bbls. of 42.7 degrees gravity oil in 24 hours from sand logged at 2,009-2,016 feet, total depth. Since its discovery several other producers and dry holes have been drilled around it, a line has been laid from the pool to a loading rack on the railroad and a refinery is proposed for the pool, which is one of the most active and interesting areas in the county and district.

The above pool was discovered as a result of a small pool uncovered about 2½ miles southeast of Gainesville in January when J. H. Martin (Martin Oil Co.) drilled in a small pumper on the Talbot lands. The well made 10 bbls. per hour on the pump on a seven-hour test, later dwindling to around 10 bbls. per day on the pump, making some water. It logged sand at 1,605-15 feet, gravity of the oil testing 38 degrees. Several other small producers and dry holes were drilled near this discovery, the Burke Royalty Co. later buying the properties from Martin and drilling in a well in the Strawn sand in the pool at 1,800-15 feet, thereby proving a second producing sand.

Other tests have been drilled in all directions from Gainesville since the opening of the pool southeast of the town, the Anderson & Kerr produc-

CENTRAL TEXAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
BROWN COUNTY:							
Daily average	1,809	1,815	1,811	1,810	1,762	1,730	
Month	56,079	52,635	56,141	54,300	54,632	51,900	325,677
CALLAHAN COUNTY:							
Daily average	1,563	1,519	1,549	1,558	1,589	1,611	
Month	48,453	44,051	48,019	46,740	49,259	48,330	284,852
COLEMAN COUNTY:							
Daily average	1,217	1,197	1,206	1,210	1,216	1,214	
Month	37,727	34,713	37,386	36,300	37,696	36,420	220,242
COMANCHE COUNTY:							
Daily average	673	661	669	665	674	679	
Month	20,863	19,169	20,739	19,950	20,894	20,370	121,985
EASTLAND COUNTY:							
Daily average	2,464	2,458	2,461	2,466	2,471	2,458	
Month	76,384	71,282	76,291	73,980	76,601	73,740	448,278
FISHER COUNTY:							
Daily average	5,530	4,916	5,117	5,200	5,207	5,293	
Month	172,980	142,564	158,627	156,000	161,417	158,790	950,378
HASKELL COUNTY:							
Daily average	14	3	32	35	32	33	
Month	434	87	992	1,050	992	990	4,545
JACK COUNTY:							
Daily average	1,310	1,376	1,467	1,750	1,761	1,747	
Month	40,610	39,904	45,477	52,500	54,591	52,410	285,492
JONES COUNTY:							
Daily average	2,074	2,247	2,180	3,100	3,210	3,215	
Month	64,294	65,163	67,580	93,000	99,510	96,450	485,997
PALO PINTO COUNTY:							
Daily average	356	336	331	323	321	330	
Month	11,036	9,744	10,261	9,690	9,951	9,900	60,582
RUNNELS COUNTY:							
Daily average	432	411	403	290	407	413	
Month	13,392	11,919	12,493	8,700	12,617	12,390	71,511
SHACKELFORD COUNTY:							
Daily average	5,978	5,832	5,828	5,817	6,511	6,760	
Month	185,318	169,128	180,668	174,510	201,841	202,800	1,114,265
STEPHENS COUNTY:							
Daily average	4,692	4,483	4,611	4,641	4,612	4,651	
Month	145,452	130,007	142,941	139,230	142,972	139,530	840,132
THROCKMORTON COUNTY:							
Daily average	411	432	416	410	420	417	
Month	12,741	12,528	12,896	12,300	13,020	12,510	75,995
Daily average	28,573	27,686	28,081	29,275	30,193	30,551	29,066
Total first six months 1936	885,763	802,894	870,511	878,250	935,983	916,530	5,289,931
Total first six months 1935	904,766	778,204	905,758	862,290	908,883	875,220	5,235,127
Total first six months 1934	835,326	819,308	919,243	856,440	913,260	900,300	5,243,877
Total first six months 1933	587,859	631,260	698,678	664,950	676,420	610,350	3,969,547
Total first six months 1932	644,118	626,458	666,128	647,130	680,481	661,440	3,925,755

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OIL WELL SUPPLIES

TULSA, OKLAHOMA

tion being the only new producing area found since the Martin discovery. Many other tests are now going down in the county, several of which are deep tests. Several major companies have blocked and checkerboarded acreage throughout the county during the year.

IMPORTANT DISCOVERY

Early in January Crenshaw and Oil Industries, Inc., of Fort Worth, completed a wildcat 2 miles southeast of Bryson in Jack County, which started one of the most active drilling campaigns in the North Texas district, resulting in the completion of many more good wells, and the discovery of another pay zone for the sector. The discovery is located on the S. J. Beasley farm in the G. Hardesty Survey. It topped the Strawn sand at 2,987 feet and was completed at a total depth of 3,004 feet, good for 800 bbls. per day, with a rock pressure of 950 pounds and making 15,000,000 feet of gas. The pool has been extended in nearly all directions since its discovery.

Hamon & Meredith later opened a new pay in the Bryson area, 2 miles to the southeast of the above mentioned pool. This well, located on the Rhodes lands in the Erwin Survey, logged the sand at 2,433-49 feet, making 30 bbls. per day. The deeper pay in the area is found below 3,000 feet.

YOUNG COUNTY STRIKES

Several deep strikes were made in the South Bend and Graham areas in Young County. The deep wells were large flush producers spurring on much deep drilling. One of these new deep strikes was made by Ray & Staniforth in No. 1 J. Wooten, in section 1,976, T.E.&L. Survey, 5 miles north of Graham and 1 mile north of the nearest producer in the area. It made 380 bbls. of oil in three hours before shutting in for storage. The lime was treated with acid to increase its yield. Lime pay was logged from 3,940-63 feet, total depth.

Nash & Windforh, of Graham, opened another deep producing area in the county when No. 1 W. S. Simms, D. Franklin Survey, 2½ miles north of the nearest production and 2 miles southwest of Graham, logged saturated lime at 3,817 feet and flowed 400 bbls. of high gravity oil through three-eighths inch tubing choke after acidizing.

WILBARGER POOL

King Royalty Co. opened a pool on the Waggoner ranch in Wilbarger County by bringing in its No. 1-N W. T. Waggoner, in section 104, Block 14, H.&T.C. Survey, flowing and pumping 289 bbls. in 23 hours at a total depth of 1,552 feet. The sand was topped 2 feet above this. The Waggoner ranch produced oil for many years, but this discovery stimulated the belief that other producing areas may be found on the ranch. Deeper pays uncovered in several of the producing spots on the ranch this year started the deepening of many of the old depleted producers.

PANHANDLE DISTRICT

The past six months have seen little wildcatting in the Panhandle district, practically all drilling having been held to the producing areas. Several outposts were completed, extending production. One gas discovery was made in Collingsworth County. The well was drilled by Tom Hunter of Wichita Falls, and associates, on the Tinsley ranch, in section 8, Block 13, H.&G.N. Survey. Elevation is 2,134 feet. Total depth is 2,260 feet. It was plugged back to 1,880 feet before completing, making 2,080,000 feet of gas on initial gauge. The test was not of sufficient importance to start any offset drilling.

The table showing production by fields in the Panhandle district will be found on Page 123.

NORTH TEXAS

Daily Average and Monthly Production in First Six Months of 1936

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Ttl. 6 mos. (bbls.)
WICHITA COUNTY:							
Burkburnett—							
Daily average	2,216	2,285	2,393	2,446	2,463	2,452	
Month	68,696	66,265	74,183	73,380	76,353	73,560	432,437
Electra—							
Daily average	7,476	7,415	7,588	7,606	7,624	8,147	
Month	231,756	215,035	235,228	228,180	236,344	244,410	1,390,953
Iowa Park-K.M.A.—							
Daily average	2,362	2,274	2,263	2,208	2,275	2,227	
Month	73,222	65,946	70,153	66,240	70,525	66,810	412,896
Sunshine Hill—							
Daily average	474	456	479	485	490	487	
Month	14,694	13,234	14,849	14,550	15,190	14,610	87,117
Miscellaneous—							
Daily average	2,110	2,095	2,189	2,210	2,216	2,231	
Month	65,410	60,755	67,859	66,300	68,696	66,930	395,950
ARCHER COUNTY:							
Daily average	15,511	14,588	14,763	14,900	14,880	15,611	
Month	480,841	423,052	457,653	447,000	461,280	468,330	2,738,156
CLAY COUNTY:							
Daily average	489	491	509	515	518	512	
Month	15,159	14,239	15,779	15,450	16,058	15,360	92,045
WILBARGER COUNTY:							
Daily average	7,911	7,828	8,162	8,375	8,444	8,231	
Month	245,241	227,012	253,022	251,250	261,764	246,930	1,485,219
MONTAGUE COUNTY:							
Daily average	5,393	4,985	5,216	5,495	5,482	5,410	
Month	167,183	144,565	164,796	164,850	169,942	162,300	973,636
YOUNG COUNTY:							
Daily average	10,416	10,318	10,646	11,971	10,816	10,942	
Month	322,896	299,077	330,026	359,130	335,296	328,260	1,974,685
BAYLOR COUNTY:							
Daily average	4,514	4,049	4,169	4,273	4,958	3,660	
Month	139,934	117,421	129,239	128,190	153,698	109,800	778,282
COOKE COUNTY:							
Daily average	2,580	2,388	2,616	2,810	2,876	2,842	
Month	79,980	69,252	81,096	84,300	89,156	85,260	489,044
FOARD COUNTY:							
Daily average	567	549	525	490	518	497	
Month	17,577	15,921	16,275	14,700	16,058	14,910	95,441
Daily average	62,019	59,716	61,618	63,784	63,560	63,249	62,340
Total first six months 1936	1,922,589	1,731,764	1,910,158	1,913,520	1,970,360	1,897,470	11,345,861
Total first six months 1935	1,879,747	1,740,760	1,874,384	1,825,350	1,919,210	1,852,710	11,092,161
Total first six months 1934	1,740,898	1,644,440	1,867,223	1,837,590	1,887,187	1,815,210	10,792,548
Total first six months 1933	1,568,693	1,424,220	1,566,120	1,538,340	1,520,023	1,404,090	9,021,486
Total first six months 1932	1,587,262	1,557,764	1,624,803	1,573,380	1,654,625	1,620,540	9,618,374

TEXAS PANHANDLE

Summary of Operations First Six Months 1936

County—	Comp.	Prod.	Dry	Gas
Carson	23	9,262	0	6
Gray	116	50,299	5	9
Hall	1	0	1	0
Hutchinson	75	30,551	2	4
Moore	44	733	1	40
Potter	2	0	0	2
Wheeler	71	43,416	2	24
Collingsworth	1	0	0	1
Total	333	134,261	11	86

Completions by Months

	Comp.	Prod.	Dry	Gas
January	65	24,751	2	16
February	43	15,774	3	11
March	51	24,649	1	15
April	65	34,557	0	15
May	63	30,078	4	19
June	46	14,452	1	10
Total six months	333	134,261	11	86
Same period 1935	317	149,999	21	35
Difference	16	15,738	10	51

DEEPEST TEST IN DISTRICT

The deepest test ever drilled in the Panhandle was completed this year as a dry hole. Phillips Petroleum Co. drilled this test on the Hughes ranch, in section 4, Block H, H. Stephens Survey. It was given up as a failure at total depth of 8,017 feet, elevation 2,225 feet. It logged a slight showing of oil at 5,421-22 feet.

LARGEST GASSER IN DISTRICT

During the forepart of April Phillips Petroleum Co. completed the largest gas producer ever brought in in the Panhandle district. The well gauged 192,000,000 feet per day when bottomed at 3,270 feet. The pay was topped at 3,005 feet. It is located in section 116, Block 3-T, T.&N.O. Survey, in Moore County.

Harry Stekoll extended the Dolomite pay area in Hutchinson County 1¼ miles to the west, which caused more drilling in that part of the field. The well, located in section 36, Block M-23, T.C. Survey, made 400 bbls. per day after the pay was shot at 2,980-3,050 feet. Total depth of the hole is 3,066 feet. Stekoll made a purchase of considerable extent during the year, taking over 800 acres with 21 wells from J. K. Hughes of Mexia. The leases are located in section 8, Block M-21, T.C. Survey and section 6, Block B-4, D.&S.E. Survey.

Pure Oil Co. sold its three producing leases, including 16 pumping wells in Gray and Hutchinson Counties, to Roy B. Jones of Wichita Falls. Daily potential of the wells was 275 bbls., the allowable being 150 bbls. per day.

CONSOLIDATION

A consolidation of importance in the district was that of King Royalty Co. of Wichita Falls and Dixon Creek Oil Co. of Amarillo, both holding producing properties in the Panhandle field. The new company is known as King Oil Co. and is headed by R. A. King of Wichita Falls. The company now holds leases on 6,270 acres in the district. It also owns 4,888 acres of producing leases in the North Texas district, part of which is held jointly by other companies or producers. Total number of wells owned by the new company at time of consolidation was 530, with a daily potential of 15,000 bbls., on the pump. The allowable was around 2,800 bbls. per day. The company also has a number of gas wells, a refinery under lease to another company, gas and oil pipe lines located in the Panhandle, and a number of tests drilling.

During the forepart of 1935 there were 333 tests completed in the Panhandle district, only 11 of which proved dry. However, the first six months of this year showed an increase of 16 more tests drilled than during the same corresponding period of 1935.

Results in Michigan

The summary of completed field work in the Michigan fields received too late to be made a part of the semiannual review of that state, which appears on page 127, was as follows:

Summary of Wells Completed First Six Months of 1936

County—	Comp.	Prod.	Dry	Gas
Allegan	1	0	1	0
Arenac	2	0	2	0
Antrim	1	0	1	0
Bay	1	25	0	0
Clare	1	0	1	0
Clinton	2	0	2	0
Crawford	1	0	1	0
Eaton	1	0	1	0
Gladwin	16	825	7	0
Grand Traverse	1	0	1	0
Gratiot	16	0	7	9
Ionia	3	0	3	0
Isabella	12	858	3	1
Jackson	1	0	1	0
Kent	2	0	2	0
Lapeer	1	0	1	0
Lenawee	1	25	0	0
Mason	1	0	1	0
Mecosta	47	0	10	37
Midland	50	13,422	2	0
Monroe	1	0	1	0
Montcalm	112	11,655	27	46
Newaygo	1	0	1	0
Ogemaw	38	3,977	4	1
Osceola	1	0	1	0
Saginaw	13	48	10	0
St. Clair	1	0	1	0
Shiawassee	3	10	2	0
Tuscola	4	15	2	0
Wayne	1	0	1	0
Total	336	30,860	97	94

Completions by Months

	Comp.	Prod.	Dry	Gas
January	41	5,945	16	6
February	33	5,145	10	7
March	40	4,105	9	11
April	61	4,189	18	18
May	65	4,580	16	21
June	96	6,896	28	31
Total six months	336	30,860	97	94
Same period 1935	185	26,339	50	43
Difference	151	4,521	27	51

The

INDEPENDENT EXPLORATION COMPANY

announces the formation of a

REVIEW INTERPRETATION DEPARTMENT

under the direction of

MR. T. I. HARKINS

The services of this department are available, without additional cost, to our clients on contemporary work. For the review interpretation of our own back work, a moderate fee will be charged. For the review interpretation of reflection surveys made by others than Independent Exploration Company crews, a reasonable consulting fee will be charged.

This review interpretation is made independently of the interpretation regularly submitted by our field crews. Mr. Harkins is assisted in this work by men who have been proved competent in the analysis of reflection seismograph data.

The supervision of the Independent Exploration Company is now distributed as follows:

E. E. Rosaire, President

A. L. Smith, (Vice-President) Field Supervisor, outside the Gulf Coast.	T. I. Harkins (Vice-President) Review Interpretations	J. W. Flude (Secretary) Field Supervisor, Gulf Coast

We believe this supervision adequate, in view of the experience and qualifications of the men who make up our field crews.

In spite of the fact that the demand for our services materially exceeds the number of our crews available, we will expand only at such times as we have competent men available for staffing new crews.

President.

INDEPENDENT EXPLORATION COMPANY

POINTING THE WAY — IXC — FOR THE DRILL

ESPERSON BLDG. HOUSTON, TEXAS

Crude Price Changes, First Six Months, 1936

NORTH LOUISIANA AND ARKANSAS

	Jan. 1	Jan. 9	Jan. 10	Jan. 16
Smackover, Ark., all grades*	$.70	$.70	$.75	$.75
Smackover, Ark., all grades†	.70	.80	.80	.80
Tullos and Urania	.87	.87	.97	.97
Nevada, Ark.	.60	.60	.65	.65
El Dorado East field	.70	.80	.80	.75
Converse, Holly, Pleasant Hill and Zwolle, La.*	1.03	1.03	1.10	1.10
Lisbon, Ark.*	1.03	1.03	1.10	1.10
Elm Grove, La.	.75	.75	.80	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

MIDDLE WESTERN STATES

OHIO OIL CO.

	Jan. 1	Jan. 9	Jan. 10	Jan. 13	Jan. 14	June 15
Lima	$1.15	$1.15	$1.25	$1.25	$1.25	$1.25
Illinois	1.13	1.23	1.23	1.23	1.23	1.23
Princeton, Ind.	1.13	1.23	1.23	1.23	1.23	1.23
Midland, Mich.*	1.32	1.32	1.32	1.32	1.32	1.42
West Branch, Mich.	.96	.96	.96	.96	1.16	1.26
Muskegon, Mich.	1.00	1.00	1.00	1.00	1.00	1.00
Eastern Kentucky:						
Big Sandy River	1.20	1.30	1.30	1.30	1.30	1.30
Kentucky River	1.28	1.38	1.38	1.38	1.38	1.38
Western Kentucky	1.13	1.23	1.23	1.23	1.23	1.23

*Posted by Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

ROCKY MOUNTAIN STATES

	Jan. 1	Jan. 9	Jan. 29	Feb. 24	June 5
Iles, Colo., light*	$.96	$1.06	$1.06	$1.06	$1.06
Iles, Colo., heavy*	.90	1.00	1.00	1.00	1.00
Greybull, Wyo.*	1.18	1.28	1.28	1.28	1.28
Torchlight, Wyo.*	1.18	1.28	1.28	1.28	1.28
Grass Creek, Wyo., light*†	1.18	1.28	1.28	1.28	1.28
Grass Creek, Wyo., heavy*†	.62	.72	.72	.72	.72
Hamilton Dome, Wyo.*	.67	.67	.67	.67	.67
Elk Basin, Wyo., light*†	1.18	1.28	1.28	1.28	1.28
Frannie, Wyo., heavy*	.70	.72	.72	.72	.72
Frannie, Wyo., light*	.62	.82	.82	.78	.78
Hogback, N. Mex.*	1.11	1.21	1.21	1.21	1.21
Pondera, Mont.*	1.25	1.10	1.05	1.05	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.					
Big Muddy, Wyo.†	1.01	1.11	1.11	1.11	1.11
Rock Creek, Wyo.†	1.02	1.12	1.12	1.12	1.12
Artesia, N. Mex.‡	.75	.75	.75	.75	.75
Maljamar, N. Mex.‡	.75	.75	.75	.75	.75
Fort Collins and Wellington, Colo.‡—see note.					
Florence, Colo.	.90	.98	.98	.98	.98
Lance Creek, Wyo.	.92	.85	.85	.85	.85
Lost Soldier, Wyo.	.88	.88	.88	.88	.88
Hudson, Wyo.	.65	.65	.65	.65	.65
Sunburst, Mont.	1.20	1.25	1.25	1.25	1.15
Cat Creek, Mont.	1.07	1.28	1.28	1.28	1.28
Cut Bank, Mont.	....	1.45	1.45	1.45	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

CALIFORNIA CRUDE OIL PRICE CHANGES IN FIRST 6 MONTHS OF 1936

	Richfield		Whittier La Habra		Montebello		Ventura Avenue	Olinda Brea Canyon		Athens Rosecrans		Mountain View		Elwood Terrace		Wheeler Ridge	
Gravity—	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1*	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1	Feb. 26
14-14.9	$.71	$.76	$.71	$.76	$.72	$.77	....	$.71	$.76	....	....	....	....	....	....	....	....
15-15.9	.71	.76	.71	.76	.72	.77	....	.71	.76	....	....	....	....	....	....	....	....
16-16.9	.71	.76	.71	.76	.72	.77	....	.71	.76	....	....	....	....	....	....	....	....
17-17.9	.71	.76	.71	.76	.72	.77	....	.71	.76	....	....	....	....	....	....	....	....
18-18.9	.71	.76	.71	.76	.72	.77	....	.73	.78	....	....	....	....	....	....	....	....
19-19.9	.71	.76	.71	.78	.72	.77	....	.75	.81	....	....	$.65	$.70	....	....	$.65	$.70
20-20.9	.71	.78	.78	.82	.72	.77	....	.77	.84	....	....	.65	.70	....	....	.65	.70
21-21.9	.71	.80	.75	.85	.73	.77	....	.79	.88	....	....	.65	.72	....	....	.65	.70
22-22.9	.73	.84	.77	.89	.74	.79	$.73	.81	.92	....	....	.66	.77	....	....	.67	.72
23-23.9	.75	.88	.79	.93	.74	.82	.75	.84	.96	$.79	$.84	.67	.80	....	....	.69	.76
24-24.9	.77	.91	.80	.96	.76	.85	.77	.86	.99	.81	.88	.69	.84	....	....	.71	.79
25-25.9	.79	.95	....	....	.78	.89	.79	.88	1.03	.83	.93	.71	.88	....	....	.73	.83
26-26.9	.81	.98	....	....	.80	.92	.81	.90	1.06	.86	.98	.73	.91	....	....	....	....
27-27.9	.83	1.02	....	....	.82	.96	.83	.92	1.10	.88	1.03	.76	.95	....	F.O.B.	....	....
28-28.9	.85	1.06	....	....	.83	.99	.85	....	1.14	.90	1.07	.78	.99	....	ship	....	....
29-29.9	.87	1.09	....	....	.85	1.03	.87	....	1.17	.93	1.12	.80	1.02	....	....	....	....
30-30.9	....	....	....	....	.87	1.07	.89	....	1.21	95	1.17	.83	1.06	....	....	....	....
31-31.9	....	....	....	....	.89	1.11	....	....	1.24	.97	1.22	.85	1.09	....	....	....	....
32-32.9	....	....	....	....	.91	1.14	....	....	1.27	1.00	1.27	.87	1.13	....	....	....	....
33-33.9	....	....	....	....	.93	1.18	....	....	....	....	1.32	.89	1.17	$.99	$1.28	....	....
34-34.9	....	....	....	....	.95	1.22	....	....	....	....	1.37	.91	1.20	1.01	1.32	....	....
35-35.9	....	....	....	....	.97	1.25	....	....	....	....	1.42	....	....	1.03	1.35	....	....
36-36.9	....	....	....	....	.99	1.29	....	....	....	....	1.46	....	....	1.05	1.39	....	....
37-37.9	....	....	....	....	1.00	1.32	....	....	....	....	1.51	....	....	1.07	1.43	....	....
38-38.9	....	....	....	....	1.02	1.36	....	....	....	....	1.56	....	....	....	....	....	....
39-39.9	....	....	....	....	1.05	1.40	....	....	....	....	1.61	....	....	....	....	....	....
40-40.9	....	....	....	....	1.07	1.43	....	....	....	....	1.66	....	....	....	....	....	....

	Santa Fe Springs		West Coyote Hills		Buena Vista Hills, Midway-Sunset except Lakeview area		Lost Hills		Rincon	Belridge		Alamitos Heights	Dominguez	Kettleman Hills		Coalinga	
Gravity—	Jan. 1	Mar. 7	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1	Feb. 26	Jan. 1*	Jan. 1	Mar. 7†	Jan. 1	Jan. 1	Jan. 1-	Feb. 26	Jan. 1	Feb. 26
14-14.9	....	....	$.73	$.78	$.65	$.70	$.65	$.70	....	$.65	$.70	$.74	....	....	....	$.65	$.70
15-15.9	....	....	.73	.78	.65	.70	.65	.70	....	.65	.70	.74	....	....	....	.65	.70
16-16.9	....	....	.73	.78	.65	.70	.65	.70	....	.65	.70	.74	....	....	....	.65	.70
17-17.9	....	....	.73	.78	.65	.70	.65	.70	....	.65	.70	.74	....	....	....	.65	.70
18-18.9	....	....	.73	.78	.65	.70	.65	.70	....	.65	.70	.74	....	....	....	.65	.70
19-19.9	....	....	.73	.78	.66	.74	.68	.74	....	.68	.74	.74	....	....	....	.66	.71
20-20.9	....	....	.73	.80	.68	.78	.71	.78	....	.71	.78	.74	....	....	....	.67	.72
21-21.9	$.73	$.78	.75	.84	.71	.82	.73	.82	....	.73	.82	.74	....	....	....	.69	.74
22-22.9	.73	.78	.77	.88	.74	.87	.75	.86	$.69	.75	.86	.74	....	....	....	.71	.78
23-23.9	.73	.78	.79	.92	.77	.92	.77	.90	.71	.77	.90	.77	$.79	....	....	.73	.82
24-24.9	.75	.82	.81	.96	.80	.97	.80	.94	.73	.80	.94	.80	.81	....	....	.75	.86
25-25.9	.77	.86	.82	1.00	.83	1.01	.82	.98	.76	.82	.98	.82	.83	....	....	.77	.90
26-26.9	.79	.90	.84	1.03	.86	1.06	.85	1.02	.77	.85	1.02	.85	.86	....	....	....	....
27-27.9	.82	.95	.86	1.06	.88	1.10	.88	1.06	.79	.88	1.06	.88	.88	....	....	....	....
28-28.9	.84	.99	.88	1.10	.91	1.15	.90	1.10	.81	.90	1.10	.90	.90	....	....	....	....
29-29.9	.86	1.03	.90	1.14	.94	1.20	.92	1.14	.83	.92	1.14	.93	.93	....	....	....	....
30-30.9	.89	1.08	.92	1.17	.97	1.25	.94	1.18	.85	.94	1.18	.95	.95	....	....	....	....
31-31.9	.91	1.12	.94	1.21	.99	1.29	....	....	....	.95	1.20	....	.97	....	....	....	....
32-32.9	.93	1.16	.96	1.25	1.02	1.34	....	....	....	.96	1.22	....	1.00	....	....	....	....
33-33.9	.96	1.20	.98	1.28	1.04	1.38	....	....	....	.97	1.24	....	....	$.96	$1.19	....	....
34-34.9	.98	1.25	1.00	1.32	....	....	....	....	....	.98	1.26	....	....	.97	1.23	....	....
35-35.9	1.00	1.29	....	....	....	....	....	....	....	.99	1.28	....	....	.99	1.27	....	....
36-36.9	1.02	1.33	....	....	....	....	....	....	....	1.01	1.30	....	....	1.02	1.31	....	....
37-37.9	1.04	1.37	....	....	....	....	....	....	....	1.03	1.32	....	....	1.05	1.35	....	....
38-38.9	1.07	1.42	....	....	....	....	....	....	....	....	....	....	....	1.08	1.39	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	....	....	1.11	1.42	....	....

	Torrance		Elk Hills		Lakeview area	Newhall, McKittrick, Kern River, Round Mountain		Signal Hill		Seal Beach		Huntington Beach		Inglewood		Playa Del Rey	
Gravity—	Jan. 1	Feb. 26	Jan. 1	June 22	Jan. 1	Jan. 1	Mar. 7	Jan. 1	Mar. 7	Jan. 1	Feb. 26	Jan. 1	Mar. 7	Jan. 1	Feb. 26	Jan. 1	Mar. 7
14-14.9	$.75	$.80	$.65	$.70	$.65	$.65	$.70	$.75	$.80	$.74	$.79	$.72	$.78	$.74	$.79	$.75	$.80
15-15.9	.75	.80	.65	.70	.65	.65	.70	.75	.80	.74	.79	.73	.78	.74	.79	.75	.80
16-16.9	.75	.80	.65	.70	.65	.65	.70	.75	.80	.74	.79	.73	.78	.74	.79	.75	.80
17-17.9	.75	.80	.65	.70	.65	.65	.70	.75	.80	.74	.79	.73	.78	.74	.81	.75	.80
18-18.9	.75	.82	.65	.70	.65	.65	.70	.75	.80	.74	.79	.72	.78	.76	.84	.75	.80
19-19.9	.77	.85	.66	.74	.66	.65	.70	.75	.82	.74	.79	.74	.82	.77	.87	.76	.84
20-20.9	.78	.88	.68	.78	.68	....	....	.76	.85	.74	.79	.76	.85	.79	.90	.79	.88
21-21.9	.80	.91	.71	.82	.71	....	....	.78	.88	.74	.79	.78	.89	.81	.92	.81	.93
22-22.9	.81	.93	.74	.87	.74	....	....	.80	.92	.74	.82	.80	.92	.82	.96	.84	.98
23-23.9	.83	.96	.77	.92	.77	....	....	.82	.95	.77	.86	.82	.96	.84	.99	.86	1.02
24-24.9	.84	.99	.80	.97	.80	....	....	.84	.99	.80	.91	.84	1.00	.86	1.02	.88	1.06
25-25.9	.86	1.02	.83	1.01	.83	....	....	.86	1.03	.82	.95	.86	1.03	.87	1.05	.91	1.11
26-26.9	.88	1.05	.86	1.06	.86	....	....	.88	1.06	.85	1.00	.88	1.07	.89	1.09	.93	1.16
27-27.9	....	....	.88	1.10	.88	....	....	.90	1.10	.88	1.05	.90	1.11	.91	1.12	....	F.O.B.
28-28.9	....	....	.91	1.15	.91	....	....	.92	1.14	.90	1.10	.91	1.14	.92	1.15	....	our
29-29.9	....	....	.94	1.20	.94	....	....	.94	1.17	.93	1.15	.93	1.18	.94	1.18	....	pipe
30-30.9	....	....	.97	1.25	.97	....	....	.96	1.21	.95	1.19	.95	1.22	.95	1.21	....	line
31-31.9	....	....	.99	1.29	.99	....	....	....	....	....	....	....	....	.97	1.24	....	....
32-32.9	....	....	1.02	1.34	1.02	....	....	....	....	....	....	....	....	.99	1.27	....	....
33-33.9	....	....	1.04	1.38	1.04	....	....	....	....	....	....	....	....	....	....	....	....

*Posted by General Petroleum Corp. of California †Posted by Union Oil Corp. of California. All others by Standard Oil Co. of California.

PENNSYLVANIA GRADE OIL

	Jan. 1	Jan. 13
Posted by Tide Water Pipe Co.		
Bradford, Pa.	$2.30	$2.45
Allegany, N. Y.	2.30	2.45
Posted by South Penn Oil Co.		
Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.30	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.02	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.97	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.82	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.32	1.42
Posted by Pennzoil Co.		
Pennsylvania Grade Oil in National Transit Lines:		
Group A	2.27	2.42
Includes Cochran, Franklin, Hamilton and Doolittle districts.		
Group B	2.26	2.41
Includes Titusville district.		
Group C	2.25	2.40
Includes Turkey and Tidioute districts.		
Group D	2.24	2.39
Includes Bear Creek and Porkey districts.		
Group E	2.21	2.36
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts. Price depends on length of pipe line to plant at Oil City.		
Posted by Pure Oil Co.		
Cabin Creek, W. Va.	1.97	2.12
Bradford Hollow, W. Va.	1.97	2.12
Kelly Creek, W. Va.	1.97	2.12

WEST TEXAS

	Jan. 1	Jan. 9
Crane, Upton, Howard, Glasscock and Mitchell Counties.	$.70	$.80
Winkler County	.75	.85
Lea County, N. Mex.	.75	.85
Pecos County*	.75	.85
Pecos shallow†	.65	.75

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note: For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

WEST TEXAS AND LEA COUNTY, NEW MEXICO

Gravity—	Jan. 1*	Jan. 9
Below 29	....	$.75
29-29.9	....	.76
30-30.9	....	.78
31-31.9	....	.80
32-32.9	....	.82
33-33.9	....	.84
34-34.9	....	.86
35-35.9	....	.88
36-36.9	....	.90
37-37.9	....	.90
38-38.9	....	.90
39-39.9	....	.90
40 and over	....	.90

*Prices were on flat price basis.

GRAY COUNTY, TEXAS

Gravity—	Jan. 1	Jan. 9
Below 35	$.79	$.86
35-35.9	.81	.88
36-36.9	.83	.90
37-37.9	.85	.92
38-38.9	.87	.94
39-39.9	.89	.96
40 and over	.91	.98

CARSON AND HUTCHINSON COUNTIES, TEXAS

Gravity—	Jan. 1	Jan. 9
Below 35	$.69	$.81
35-35.9	.71	.83
36-36.9	.73	.85
37-37.9	.75	.87
38-38.9	.77	.89
39-39.9	.79	.91
40 and over	.81	.93

CENTRAL AND NORTH TEXAS

Gravity—	Jan. 1	Jan. 9
Below 29	$.79	$.84
29-29.9	.81	.86
30-30.9	.83	.88
31-31.9	.85	.90
32-32.9	.87	.92
33-33.9	.89	.94
34-34.9	.91	.96
35-35.9	.93	.98
36-36.9	.95	1.00
37-37.9	.97	1.02
38-38.9	.99	1.04
39-39.9	1.01	1.06
40 and over	1.03	1.08

EAST CENTRAL TEXAS

Gravity—	Jan. 1	Jan. 9
Below 29	$.79	$.91
29-29.9	.81	.93
30-30.9	.83	.95
31-31.9	.85	.97
32-32.9	.87	.99
33-33.9	.89	1.01
34-34.9	.91	1.03
35-35.9	.93	1.05
36-36.9	.95	1.07
37-37.9	.97	1.09
38-38.9	.99	1.11
39-39.9	1.01	1.13
40 and over	1.03	1.15

CONROE

Gravity—	Jan. 1	Jan. 9
35-35.9	$1.09	$1.24
36-36.9	1.11	1.26
37-37.9	1.13	1.28
38-38.9	1.15	1.30
39-39.9	1.17	1.32
40 and over	1.19	1.34

EAST TEXAS

	Jan. 1	Jan. 9
East Texas	$1.00	$1.15

ANAHUAC AND DICKINSON COUNTIES

Gravity—	Jan. 1	Jan. 9
30-30.9	$.94	$1.04
31-31.9	.96	1.06
32-32.9	.98	1.08
33-33.9	1.00	1.10
34-34.9	1.02	1.12
35-35.9	1.04	1.14
36-36.9	1.06	1.16
37-37.9	1.08	1.18
38-38.9	1.10	1.20
39-39.9	1.12	1.22
40 and over	1.14	1.24

IOWA AND CAMERON MEADOWS, TEXAS

Gravity—	Jan. 1	Jan. 9
Below 20	....	$.82
20-20.9	....	.84
21-21.9	....	.86
22-22.9	....	.88
23-23.9	....	.90
24-24.9	....	.92
25-25.9	....	.94
26-26.9	....	.96
27-27.9	....	.98
28-28.9	....	1.00
29-29.9	....	1.02
30-30.9	....	1.04
31-31.9	....	1.06
32-32.9	....	1.08
33-33.9	....	1.10
34-34.9	....	1.12
35-35.9	....	1.12
36-36.9	....	1.12
37-37.9	....	1.12
38-38.9	....	1.12
39-39.9	....	1.12
40 ond over	....	1.12

SOUTH CENTRAL AND SOUTHWEST TEXAS

	Jan. 1	Jan. 9
Saxet	$.80	$.90
Mirando	.75	.85
Pettus	1.05	1.25
Salt Flat*	.87	.97
Salt Flat‡	.87	.97
Darst Creek *	.87	.97
Darst Creek†	.87	.97
Luling	.75	.90
Lytton Springs	.95	1.00
Duval County	.75	.85
Port Lavaca	.80	....

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

OKLAHOMA AND KANSAS

Gravity—	Jan. 1	Jan. 9
Below 25	$.76	$.86
25-25.9	.78	.88
26-26.9	.80	.90
27-27.9	.82	.92
28-28.9	.84	.94
Below 29	.84	.94
29-29.9	.86	.96
30-30.9	.88	.98
31-31.9	.90	1.00
32-32.9	.92	1.02
33-33.9	.94	1.04
34-34.9	.96	1.06
35-35.9	.98	1.08
36-36.9	1.00	1.10
37-37.9	1.02	1.12
38-38.9	1.04	1.14
39-39.9	1.06	1.16
40 and over	1.08	1.18

Companies starting schedules below 29 gravity are Stanolind, Anderson-Prichard, Bell, Barnsdall, Champlin, Continental, Deep Rock, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gypsy, Johnson, Kan-o-Tex, National, Pepper, Sunray, Texas, Tide Water, Twin State, Vickers, and White Eagle. Starting below 25 gravity are Carter, Magnolia, Pure, Rock Island, Shell, Sinclair Prairie and Skelly.

GULF COAST

	Jan. 1	Jan. 9	Jan. 16
Cleveland, Tex.	$1.00	$1.10	$1.10
Hardin, Tex.	.93	1.03	1.03
Greta, Tex.	.80	.90	.90
Refugio, Tex., heavy	.80	.90	.90
Tomball, Tex.	1.15	1.30	1.30
Lafitte, La.	....	1.12	1.12
Livingston, La.	1.00	1.15	1.15
Bosco, La.	.90	1.00	1.05
Evangeline, La.	....	1.07	1.07
Welsh, La.	....	.96	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; Lafitte by Texas Co.; Bosco by Pure; Welsh and Evangeline by Stanolind Oil & Gas Co., and Livingston by Shell Petroleum Corp.

GULF COAST, TEXAS AND LOUISIANA

	Jan. 1		
Gravity—	(1)	(2)	Jan 9
Below 20	$.82	$.82	$.92
20-20.9	.84	.84	.94
21-21.9	.86	.86	.96
22-22.9	.88	.88	.98
23-23.9	.90	.90	1.00
24-24.9	.92	.92	1.02
Below 25	....	....	....
25-25.9	.94	.94	1.04
26-26.9	.96	.96	1.06
27-27.9	.98	.98	1.08
28-28.9	1.00	1.00	1.10
Below 29	....	....	....
29-29.9	1.02	1.02	1.12
30-30.9	1.04	1.04	1.14
31-31.9	1.06	1.05	1.16
32-32.9	1.08	1.06	1.18
33-33.9	1.10	1.07	1.20
34-34.9	1.12	1.08	1.22
Below 35	....	....	....
35-35.9	1.12	1.09	1.22
36-36.9	1.12	1.10	1.22
37-37.9	1.12	1.11	1.22
38-38.9	1.12	1.12	1.22
39-39.9	1.12	1.13	1.22
40 and over	1.12	1.14	1.22

NORTH LOUISIANA AND ARKANSAS

Gravity—	Jan. 1	Jan. 10
Below 25	....	$.78
25-25.9	....	.80
26-26.9	....	.82
27-27.9	....	.84
28-28.9	....	.86
Below 29	.79	....
29-29.9	.81	.88
30-30.9	.83	.90
31-31.9	.85	.92
32-32.9	.87	.94
33-33.9	.89	.96
34-34.9	.91	.98
35-35.9	.93	1.00
36-36.9	.95	1.02
37-37.9	.97	1.04
38-38.9	.99	1.06
39-39.9	1.01	1.08
40 and over	1.03	1.10

SALT CREEK, WYOMING

Gravity—	Jan. 1	Jan. 9
Below 29	$.84	$.94
29-29.9	.86	.96
30-30.9	.88	.98
31-31.9	.90	1.00
32-32.9	.92	1.02
33-33.9	.94	1.04
34-34.9	.96	1.06
35-35.9	.98	1.08
36-36.9	1.00	1.10
37-37.9	1.02	1.12
38-38.9	1.04	1.14
39-39.9	1.06	1.16
40 and over	1.08	1.18

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Many Useful Lives End in First Six Months of 1936

Death entered the ranks of the oil and gas industry in the first six months of the year, taking many useful lives. Following are the names of those whose passing was recorded in The Oil and Gas Journal during the period:

A

Arthurs, J. C., oil operator, Uhrichsville, Ohio, April 25.

Ayling, Ellis L., 66, Bartlesville, Okla., June.

Ayres, A. J., Nueces County, Texas, May.

B

Bell, George M., 52, Calgary, Canada, April.

Bell, Robert A., 73, Montreal, Canada, May.

Bickley, W. P., 79, oil producer, Electra, Tex., February.

Bird, John, 53, Shreveport, La., February 8.

Blake, James F., 62, general superintendent, Sinclair Prairie Pipe Line Co., Tulsa, June 1.

Blocker, L. O., 53, Breckenridge, Tex., May.

Boultbee, William W., 57, secretary and treasurer, Home Oil Distributors, Ltd., Vancouver, British Columbia.

Bradley, George H., 54, oil operator, Wichita Falls, Tex., April.

Bresan, Thomas E., 44, Socony Vacuum Oil Co., New York, May.

Bronsell, W. F., 59, pipe line superintendent, United Gas Co., Edna, La., February 27.

Brown, Frederick C., 64, engineer, Canadian Oil Companies, Ltd., Petrolia, Ontario, April.

Buchanan, A. E., 58, former manager Standard Oil Co. of Cuba, Cuba, February.

Burgess, Royal B., 84, Sarnia, Ontario, February.

C

Cameron, James, 61, financial agent East Texas Refining Co., Dallas, Tex., March 4.

Carnahan, B. H., Jr., California, January 14.

Caster, Herbert O., 65, Cities Service Co., New York, April.

Coleman, Charles H., 63, Sinclair Prairie Pipe Line, Ramona, Okla, June.

Collins, Melvin J., chief geologist, Plymouth Oil Co., San Antonio, Tex., February 22.

Conway, W. D., 50, oil operator Ranger, Tex., January 19.

Cowell, T. R., director, Plymouth Oil Co., Baltimore, Md., February.

Crawford, John Roe, 56, oil man, Shreveport, La., March 31.

Crosby, John W., 79, pioneer drilling contractor and producer, Leechburg, Pa., February.

Cruickshank, George F., 47, district superintendent, Southern Counties Gas Co., Santa Monica, Calif., February.

Cullen, Roy G., 30, secretary-treasurer, Quintava Petroleum Co., Houston, Tex., May.

Culver, George L., president, Culver Refining Co., Dallas, Tex., February.

D

Dana, A. G., 65, former president of Prairie Oil & Gas Co. of Wyoming, Tulsa, Okla., January.

Davis, John Karl, 75, oil operator, Bartlesville, Okla., January 11.

Delack, Burton L., General Electric Co., Schenectady, N. Y., April.

Dingman, Archibald Wayne, 85, president, Highwood-Sarcee Oils, Ltd., Calgary, Canada, March.

Dittman, V. W., 77, Los Angeles, Calif., April.

Donnelly, William A., 38, Mid-Continent Petroleum Corp., Tulsa, Okla.

Dorn, Clayton G., treasurer, Forest Oil Corp., Bradford, Pa., June 9.

Dunigan, John Edward, 76, drilling contractor and producer, Tulsa, Okla., March 8.

E

Ellis, Paul E., 55, drilling contractor, Pampa, Tex., June 3.

F

Ferguson, Walter, 49, pioneer Oklahoma oil banker, Tulsa, Okla., March 8.

Fitler, H. Biddle, 42, sales manager, Edwin H. Fitler Co., Philadelphia, Pa., January 22.

Fleeger, D. P., Wichita, Kans., March 27.

Follett, J. S., 86, Tulsa, Okla., March.

Ford, B. C., Frick-Reid Supply Corp., Pampa, Tex., May 9.

G

Garber, Burton A., 64, pioneer oil man, Enid, Okla., June 4.

Gibson, Addison H., 75, president, Galvez Oil Corp., Tulsa, Okla., April 18.

Griffin, Charles F., 90, veteran refiner, Rouseville, Pa., February 25.

H

Haley, Albert, 46, drilling contractor, Petrolia, Ontario, May.

Hall, Walter C., 57, S. R. Dresser Manufacturing Co., Allentown, Pa., April 30.

Hastings, William, Sr., 71, retired refinery superintendent, Houston, Tex., May 12.

Hazlett, John F., 68, oil producer, Bredinsburg, Pa., April.

Henaghan, James, 78, pioneer natural gasoline manufacturer, Wheeling, W. Va., April 6.

Herz, Gustav, 90, retired oil producer, Portland, Ore., May 31.

Hobson, Calvin Jackson, 49, oil operator, Oklahoma City, Okla., June 3.

Horrigan, Mitchell A., 49, marine department, Texas Co., New York, March.

J

James, Frederick W., prominent in natural gasoline business, Chatham, Ontario, May.

Jamison, Arthur Campbell, 56, production superintendent, Arkansas Fuel Oil Co., Shreveport, La., May 21.

Johnston, Lester E., 66, retired production superintendent, British-Lobitos Oilfields, Ltd., Los Angeles, Calif., February 22.

K

Kellogg, Frederick R., 68, co-founder of Richfield Oil Co., Sierra Madre, Calif., May.

Kendrick, Clark, 58, independent oil producer, Tulsa, Okla., January 20.

Kennedy, James, 67, general manager, marine department, Gulf Refining Co., Flushing, Long Island, N. Y., January 19.

Keown, Robert Joseph, 66, retired vice president and treasurer, Union Oil Co. of California, Pasadena, Calif., April.

Keys, Wilson, consulting geologist, San Angelo, Tex., June.

Kirschner, M. J., 87, retired, Monrovia, Calif., May.

Kobel, W. C., 53, erecting engineer for Cooper-Bessemer Corp., Tulsa, Okla., April.

Knoch, Dr. Franklin E., pioneer oil man, Florence, Colo., June 7.

L

Lanier, A. F., 48, president, Sultana Drilling Co., Shreveport, La., April 25.

Lassiter, H. N., representative, Drane Tank Co., Pampa, Tex., June 19.

Law, Morell, Los Angeles, Calif., February 15.

LeClarre, Charles J., 55, Magnolia Petroleum Co., Electra, Tex.

M

McCall, Edward, 79, Petrolia, Ontario, March.

McCormick, Cyrus H., retired chairman of the board, International Harvester Co., Lake Forest, Ill., June 2.

McEwen, William J., 69, retired oil man, Toronto, Canada, March.

McGinley, William, president, McGinley Oil Corp., Fort Worth, Tex., March.

McGinty, Charles F., 57, Houston, Tex., March.

McManus, John, 65, retired, Parkersburg, W. Va., January 6.

McNutt, Vachel Harry, 50, geologist, San Antonio, Tex., April 5.

Mallory, Sidney T., 75, oil pioneer, Tulsa, Okla., June 18.

Martin, W. B., 39, assistant to vice president in charge of Texas Co., Los Angeles, Calif., February.

Massey, Harold, 47, president, Massey Oil & Gas Co., Windsor, Ontario, February 9.

Middleton, John E, 53, Imperial Oil, Ltd., Sarnia, Ontario, April.

Miller, John Black, 69, oil man, Pittsburgh, Pa., June 22.

Millican, Charles Edward, 38, Humble Oil & Refining Co., Wichita Falls, Tex., May 13.

Mittnacht, A. E., secretary-treasurer, Ethyl Gasoline Corp., New York, April.

Mohler, Ralph I., 46, Sinclair Prairie Pipe Line Co., Tulsa, Okla., April 27.

Moncrief, Kenneth, 24, petroleum engineer, Beaumont, Tex., June.

Morefield, L. W., 39, Tulsa, Okla., February 6.

Mowris, William S., 68, chairman of the board of Venezuela Oil Corp., New York City, February 12.

Mullin, John E., producer, Kane, Pa., January 4.

Murphy, J. F., 70, drilling contractor, Sapulpa, Okla., June.

Myers, George W., 54, oil operator, Calgary, Ontario, April.

N

Neal, A. W., 61, oil man, Bartlesville, Okla., April.

Nolan, Charles, oil producer, Bradford, Pa., January 7.

O

O'Neil, John, 63, pioneer oil man, Wichita Falls, Tex., May 18.

P

Patrick, John H., 55, oil man, Okemah, Okla., April.

Peat, James, 94, oil operator and drilling contractor, Petrolia, Ontario, March.

Penote, Augustus J., 55, president, A. J. Penote Contracting Co., Cleveland, Ohio, May 9.

Peterson, George Henry, oil operator, Tampico, Mexico, March.

Phillips, G. C., 43, scout for California Oil Co., San Angelo, Tex., January 21.

Phillips, J. J., Sr., oil man, Wichita Falls, Tex., March.

Plumly, E. E., 64, vice president. Magnolia Petroleum Co., Beaumont, Tex., February 7.

R

Reeser, Joseph Warren, 66, superintendent of distribution, United Fuel Gas Co., Huntington, W. Va., May 18.

Reynolds, C. B., Hagerstown, Ind., February.

Riggs, Dr. E. R., 62, oil operator, Graham, Tex., April 19.

Roebling, Ferdinand W., Jr., president, John A. Roebling's & Sons Co., May 29.

Roland, R. G., 48, Ardmore, Okla., February 14.

Roundtree, Millard T., 34, production superintendent, Olney, Tex., April.

Rule, William James, Jr., managing distributor of sales, Richfield Oil Corp., New York, April 2.

S

Schlumberger, Conrad, 58, Stockholm, Sweden, May 9.

Schooley, B. L., 72, former refiner, Brisbane, Australia, January.

Skeen, Dawson H., president, D. H. Skeen & Co., Flossmoor, Ill., February 23.

Smith, Gene R., 35, geologist, Houston, Tex., June 14.

Sparrowhawk, R. W., 50, superintendent, Oklahoma Pipe Line Co., Chicago, Ill., January 8.

Spears, Andrew J., oil man, Jenks, Okla., April.

Spooner, Hiram R., geologist, Calgary, Canada, May.

Stephenson, J. Alex, 90, drilling contractor, Depew, Okla., April.

Stewart, Dr. W. F., producer, New Martinsville, W. Va., January.

Strickland, C. D., 73, driller, Dewey, Okla., March 8.

Stroup, John, 69, foreman Southern Ontario Gas Co., Ontario, Canada, April.

Sutherland, J. W., 70, Oil Springs, Ontario, January.

T

Townsend, B. D., pioneer oil operator, Denver, Colo., May 28.

W

Weaver, A. M., 61, cable tool contractor, Tulsa, Okla., June.

Willisma, George Daiber, 43, executive vice president, V. P. Hancock Oil Co. of California, Long Beach, Calif., April.

Wilson, Walter, 38, traffic manager Cosden Oil Corp., Fort Worth, Tex., January 27.

Windsor, Col. Fred, oil operator, Warren, Pa., February 19.

Woolery, K. S., retired, Dallas, Tex., January 7.

Y

Yancy, James C., 63, oil operator and geologist, Fort Worth, Tex., May 30.

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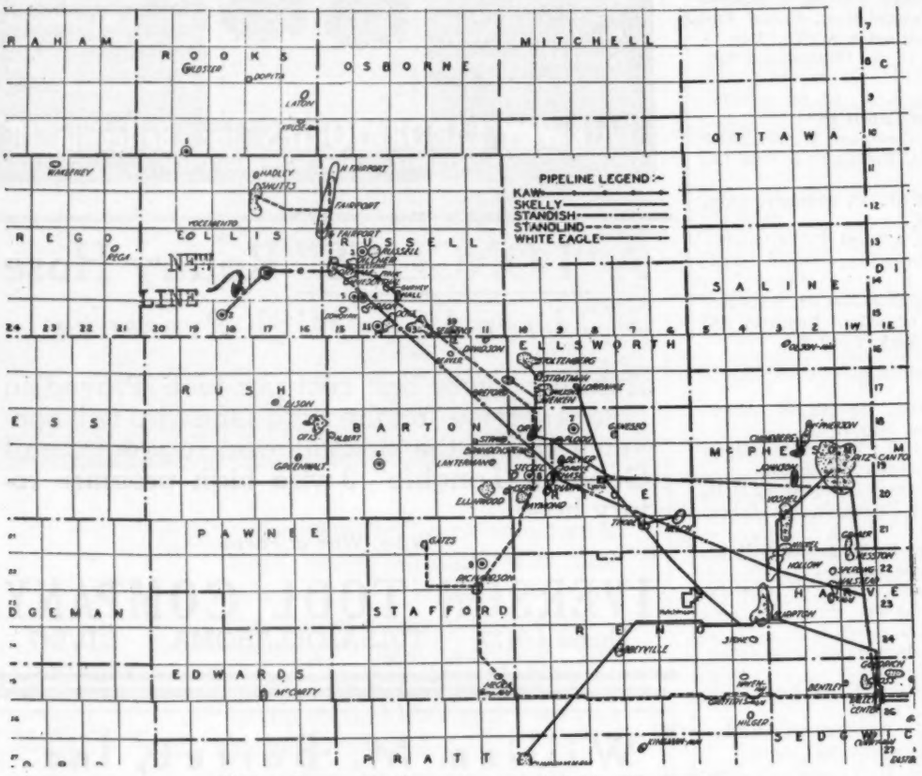
Important Oil and Gas Pipe Lines and Many Extensions Laid in Half Year

The longest pipe lines constructed in the first half of 1936 were in California, Indiana, Michigan and Texas. The California line was for the transportation of oil, while the Indiana and Michigan lines were gas conveyors. The new Rodessa field in northwestern Louisiana and eastern Texas was supplied with pipe lines both intra- and interstate. Extensions of systems and looping of main lines added to the total mileage of pipe laid. A 200-mile gasoline line from the East Texas field to Baytown, Tex., was the largest project in Texas.



Western Kansas pipe line system extended into Ellis County

MICHIGAN

Four major pipe lines were completed in Michigan, two to serve large cities with natural gas from the central Michigan producing area, one to bring Texas Panhandle and Kansas gas to Detroit, and the fourth to transport Michigan crude to the Toledo refining center.

The largest investment was the $8,000,000 spent by Panhandle Eastern Pipe Line Co., subsidiary of Columbia Gas & Electric Co., for a 230-mile extension from Zionsville, Ind., to Detroit through Indiana, Ohio and Michigan. A 22-inch line with a capacity of 125,000,000 feet daily at 125 pounds pressure was laid. Seven river crossings were made and seven or more compressors will be required to move the gas with daily consumption expected to start at about 90,000,000 feet. Later extensions may serve Pontiac, Flint and other cities in the heavily populated area surrounding Detroit. The line will serve about 55 per cent of the gas users of the state.

Two smaller gas lines virtually doubled the previous investment to market natural gas from central Michigan fields, principally the Tri-Townships field now having an aggregate open flow capacity of about 3,000,000,000 feet daily.

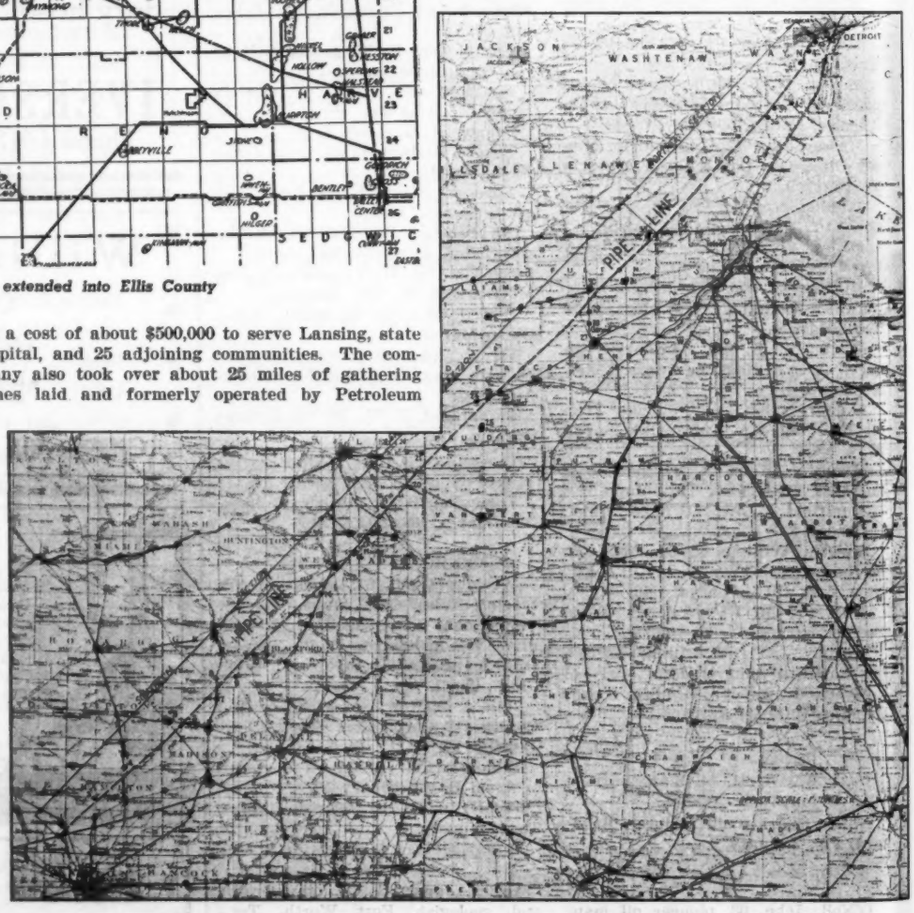
Consumers Power Co.'s 70-mile, 10-inch line from Millbrook, Hinton and Belvidere Townships, Mecosta and Montcalm Counties, was completed and placed in operation early in May. It was laid at a cost of about $500,000 to serve Lansing, state capital, and 25 adjoining communities. The company also took over about 25 miles of gathering lines laid and formerly operated by Petroleum Transportation Co. Consumers also laid 5 miles of 4-inch to pick up additional production in the New Haven-Sumner Townships field of Gratiot County.

Grand Rapids Gas Light Co. completed a 45-mile, 10-inch gas line from Tri-Townships field to Grand Rapids, at a cost of about $500,000 to be increased to $700,000 or more by additional investment for changeover.

The only oil line of any size laid was the 140-mile trunk from the Crystal field to Toledo at a cost of about $1,000,000. It was laid on a 50-50 basis by Simrall Pipe Line Co., of Mount Pleasant, Mich., and Standard Oil Co. of Ohio. It has a capacity of about 10,000 bbls. daily at 750 pounds pressure and is of continuous welded 8-inch pipe. It was laid in about 60 days over several swamps and six river crossings.

CALIFORNIA

Work on two new pipe lines in California was started in the first half of 1936 and both should be in operation before the year ends. Construction will involve $6,000,000 and require 374 miles of new pipe. About $4,500,000 will be used for remodeling existing pump stations and construction of Shell Oil Co.'s new Martinez-Bakersfield line and $1,500,000 for construction of a new pipe line by Valley Pipe Line Co. from Kettleman Hills to tidewater at Estero Bay in San Luis Obispo County. Valley Pipe Line Co. is owned jointly by



Panhandle Eastern transmission line from Indianapolis, Ind., to Detroit, Mich.

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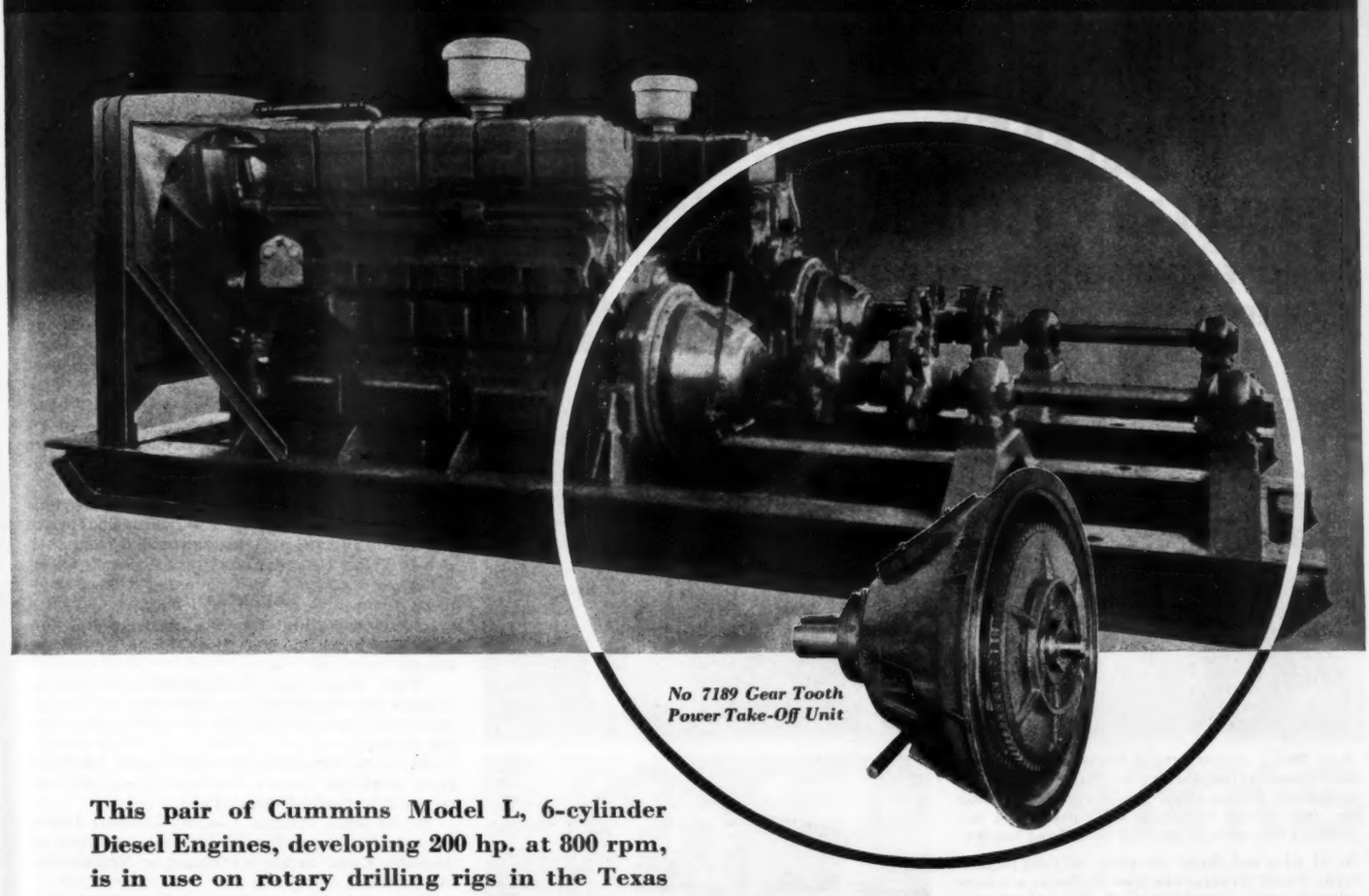
"performance backs it up"
said the makers of TWIN DISC CLUTCHES



No 7189 Gear Tooth Power Take-Off Unit

This pair of Cummins Model L, 6-cylinder Diesel Engines, developing 200 hp. at 800 rpm, is in use on rotary drilling rigs in the Texas oil field.

Such high-speed multiple engines demand a self-contained power take-off that will insure efficient starting, easy picking up of the load and satisfactory application of pulley or V-belt drive. Naturally a Twin Disc Power Take-Off was the selection of the Cummins Engine Company — they said, "because of the prominence of that company as a manufacturer of such equipment and we knew that they enjoyed a very good reputation."

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Seaboard Oil Corp. and Texas Co. Plans call for completion by September 1. At the close of June, contractors had completed 30 miles of the Valley line, and were about 10 days ahead of schedule. The crews are working east from Estero Bay and west from Kettleman Hills. Erection of four steel tanks with a capacity of 118,000 bbls. each were under way at Estero in July. The new Valley pipe line, 70 miles of 10-inch welded pipe, will have a daily capacity of 15,000 bbls. but the normal capacity can be greatly increased by the construction of pump stations.

Shell Oil Co. Martinez to Bakersfield pipe line is the largest undertaking of its kind in California in more than 20 years as it will be 304 miles long and have a capacity of approximately 25,000 bbls. per day. The pipe will range from 6 to 12 inches and the route from Coalinga to Martinez will be the same as that followed by the company's present line. Shell does not have any pipe line facilities south of Coalinga, but upon completion of the new line, will have a modern system moving oil out of each field in which it has production. Shell's new line will swing southeastward to Bakersfield in Kern County, the south terminal. From Bakersfield, lateral feeder lines will extend to Mount Poso, Round Mountain, Edison and Stevens fields. Shell will erect a new pump station at Kern River and modernize all existing pump stations between Coalinga and Martinez. Approximately 500,000 bbls. of new steel tankage will also be erected at Kern River. No appreciable change was made in natural gas lines during the first half of 1936, although Standard Oil Co. laid 20 miles of line from Mountain View field to Bakersfield and Pacific Gas & Electric Co. laid 10 miles of line from the Tracy gas field in San Joaquin County to its main trunk.

NORTH LOUISIANA

Five major trunk lines were laid into the Rodessa field in Louisiana in the first half of 1936. Prior to that time Standard Oil Co. was the only line serving the field. The present pipe lines, with their network of local lines and storage, are estimated to have a capacity of approximately 250,000 bbls. daily.

Gulf Pipe Line Co. greatly relieved the situation early in the year by extending its trunk line from the Caddo field into Rodessa, laying about 20 miles of 6-inch line from Potter Point station in the Caddo field northward into Cass County, Texas side of Rodessa field, then eastward into Rodessa, Louisiana.

East Texas Refining Co. laid an 8-inch welded line from Rodessa to its refinery at Longview, in East Texas. This line was later sold to United Gas Public Service Co.

Magnolia Petroleum Co. constructed 23 miles of 8-inch line into Rodessa to connect with its main trunk line to Beaumont at Dixie, Caddo Parish, Louisiana.

Early in April Texas Co. completed a 15-mile 6-inch extension into Rodessa from its Oil City trunk line to Port Arthur, Tex.

Shortly thereafter Arkansas-Louisiana Gas Co. laid an 8-inch welded line from Oil City into Rodessa, connecting the field with its Shreveport refinery.

Shoreline Oil Co. laid a 4-inch line from its refinery at Lewis, Caddo Parish, to Rodessa.

Griswold Refining Co. constructed a gathering system in Rodessa to a number of wells on the northern edge of the field, to provide oil for its local refinery.

OKLAHOMA

Magnolia Pipe Line Co. laid an 8-inch line from Konawa field to the Fitts field, Oklahoma.

Stanolind Pipe Line Co. laid 31 miles of 8-inch welded line looping its line from the Fitts field to near Pauls Valley, Okla.

Oklahoma Pipe Line Co. laid 12 miles of 6-inch from Keokuk to Cromwell, Okla.

MISSOURI

Stanolind Pipe Line Co. added 85 miles of 12-inch loops and 2½ miles of 10-inch loops to its system from the Mid-Continent through Missouri to Whiting, Ind.

Texas Empire Pipe Line Co. is laying nine loops along its trunk line from Sheldon, Mo., to Heyworth, Ill., and a 143-mile extension from Sheldon to Valley Center, Kans.

KANSAS

Northern Natural Gas Co. constructed a 107-mile 26-inch gas line from Hughoton to Mullinville, Kans.

White Eagle line (Socony-Vacuum) was increased from 12,000 bbls. to 20,000 bbls. by 30 miles of 8-inch loops between Burrton and Valley Center, Kans.

Stanolind Pipe Line Co. laid 6 miles of 4-inch from the Gates pool of Stafford County, Kansas, to the Hiss pool of Great Bend.

White Eagle division (Socony-Vacuum) laid a 178-mile 6-inch gasoline line from its refinery at Augusta, Kans., to water terminal at Kansas City via Topeka.

Continental Oil Co. completed an 8-inch line from Geneseo to Valley Center, Kans., with connection to Mound Ridge pool by 4-inch lateral.

Stanolind Pipe Line Co. is repairing its branch line from Welch station, Wyoming, to Freeman station, Missouri.

Stanolind Pipe Line Co. is to lay a 6-inch line in northern Ellis and southern Rooks Counties, Kansas, from its outlet in northwestern Russell County to the Bemis area in Zurich district, Rooks County.

Kaw Pipe line Co. completed a 22.5-mile 8-inch welded line from the Chase field, Rice County, to Russell County pools, and a 6-inch welded extension.

Kansas Pipe Line Co. was granted authority to lay a gas line from Rush County, Kansas, into Nebraska and eventually throughout northwestern Kansas.

ROCKY MOUNTAIN AREA

The construction of oil pipe lines in the Rocky Mountain area proceeded on a somewhat enlarged scale in the first half of 1936 compared with a year ago, although no major trunk line projects were undertaken.

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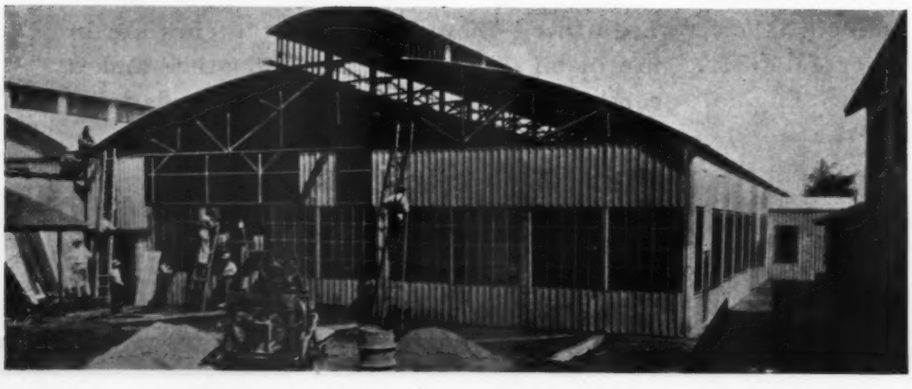

In New Mexico the only construction of importance was a 57½-mile 8-inch line from Winkler County, Texas, to the Lea County pools by Gulf Pipe Line Co. It is a north extension from its Hendricks, Winkler County, station, starting in the SE section 32, Block 5, Public School Survey, and continuing north to the North Monument Junction in the CS Line, section 4-20s-37, in Lea County. The system includes an 8-mile 6-inch extension to the Hobbs pool and laterals to the company's wells in the Monument and Eunice fields.

Phillips Petroleum Co. laid 40 miles of 2½- to 24-inch lines in Hobbs field, New Mexico, and 23 miles of small gasoline line.

There was no oil pipe line construction of importance in Colorado and Wyoming. A gasoline line, consisting of 2-inch welded pipe, was laid from the Lance Creek field to Manville, Wyo., by Continental Oil Co., a distance of 19 miles. It parallals the 4-inch oil line constructed last year and cost $36,000. It transports gasoline from the company's new absorption plant in Lance Creek to railhead.

In Montana, International Refining Co. took up its 20-mile 4-inch line from the Cut Bank field, in Glacier County, to the company's refinery at Shelby and replaced it with a 6-inch line. It also replaced 35,000 feet of 4-inch line from the field to the loading racks at Cut Bank with a 6-inch line. The recovered pipe from these projects was used to extend the field gathering system to the south end where several tribal leases have been brought into production.

Cobb & Pardee and Nadeau Brothers laid a 2-mile 3-inch line from their leases in Cut Bank to the loading racks near the town. The firms erected a 55,000-bbl. tank at the loading racks.

Several lines are projected for construction at an early date. Home Oil & Refining Co. has plans under way for the construction of a 100-mile 6-inch line from the Cut Bank field to its refinery at Great Falls. Two booster stations will be built and a telephone system installed. Cost is estimated at $675,000. Contracts have been made with independent Cut Bank producers for 3,500,000 bbls. of oil over a long period. A lateral to tie in with the Pondera field is included.

In Wyoming, Illinois Pipe Line Co. has before the Public Utilities Commission application for permit to build a 40-mile extension of its Lance Creek-Lusk line to Fort Laramie, where it will connect with Stanolind Pipe Line Co.'s trunk line from Wyoming to Freeport, Mo. The plans are in a formative stage, construction depending upon an agreement among the producers as to marketing Lance Creek crude. The field is served by two short lines to railhead.

The California Co. has under way a reconnaissance survey for a line from its well on the Quealy dome, in Larimer County, to a railroad connection. The route has not yet been determined, but may go to Rock River, a distance of 20 miles, or to a connection with the line now serving Big Medicine Bow.

In Colorado, William E. Hughes estate is investigating proposed outlet for crude production in the newly-discovered Price field in Archuleta County, in southern Colorado. Whether the line will go to the Denver & Rio Grande Western railroad at Chama, N. Mex., or to some other destination, has not been decided.

Producers in the Salt Creek field, in Wyoming, have under way investigations concerning the application of gas lift. If the plans mature they will include a 125- or 150-mile line to bring gas from the Big Horn basin or Fremont County fields to Salt Creek. No decision is expected for some time as unitization, or an agreement, must be reached before construction will be undertaken.

R. G. Frye, of Gillette, Wyo., has obtained a franchise from Gillette city council for piping gas from wells on the Padlock Livestock Co.'s ranch to the town. The project will cost $100,000, including distribution system and the franchise provides for the completion this year.

TEXAS

Atlantic Pipe Line Co. laid 10 miles of 6-inch loops in Ward County, Texas.

Wickett Pipe Line Co. extended its gathering lines 5 miles in Ward County, Texas.

Potter Pipe Line Co. constructed 10 miles of 6- and 8-inch from Clarkwood to Corpus Christi. Republic Pipe Line Co. laid 4-inch from Saxet to Corpus Christi.

Crude Oil Pipe Line Co., of San Antonio, completed its 72-mile line from the Loma Novia field, Duval County, to Corpus Christi.

Texas Pipe Line Co. laid 8 miles of 8-inch from Saxet to Corpus Christi.

Tide Water Oil Co. laid 8 miles of 2-inch pipe in Cayuga field, Anderson County. Gulf Pipe Line Co. laid 3,000 feet of 4-inch from its station near Long Lake.

Republic Oil Refining Co. contemplated laying an 8-inch line from East Texas to its refinery at Texas City.

G. & G. Co. and Independent Pipe Line Co. announced plans to lay a gathering system in Talco field, East Texas.

R. W. Fair laid 5 miles of 4-inch in East Texas to connect with Atlas Pipe Line Co. outlet. Bradford Pipe Line Co. laid 7 miles of 4-inch in Rusk County.

Texas Co. and West Texas Utilities Co. are constructing a line from Foard County to Lake Pauline.

Humble Pipe Line Co. extended its gathering system in Shackelford County and the Leuders pool.

GULF COAST

Coastal Louisiana had most of the pipe line construction work on the Gulf Coast in the first six months. Continental Oil Co. laid an oil line and a gas line from the Tepetate field in Acadia Parish to Lake Charles, run approximately 50 miles. The oil line was 6⅝ inches and the gas line 8⅝ inches. Both lines were welded and laid in one ditch. From the Garden Island field in Plaquemines Parish, Texas Pipe Line Co. constructed a 6-inch welded oil line to Pilot Point, 9 miles. In Calcasieu Parish, Union Sulphur Co. gave the Gillis field its first pipe line by construction of 14½ miles of 6-inch welded oil line to the company's Rose Bluff tank farm near Lake Charles.

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M. A. TRIMMER
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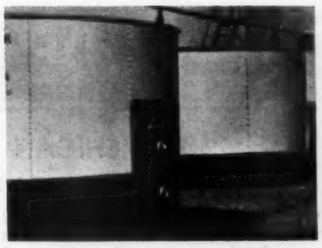

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was an 8-inch welded gasoline line approximately 200 miles laid by Humble Pipe Line Co. from the East Texas field to the Humble refinery at Baytown. The line was laid in conjunction with Hanlon-Buchanan, Inc., joined under contract with Humble to extract propane, butane and natural gasoline in the East Texas field and deliver these by pipe line to the refinery at Baytown.

American Pipe Line Co. completed laying 115 miles of 8-inch welded oil line from the East Texas field to the Conroe field in Montgomery County where it ties into another line operated by Channel Transport and Marketing Co. which extends to Houston Ship Channel at Houston.

From the Placedo field in Victoria County to the Wood-Moore refinery at Port Lavaca in Calhoun County, Barnsdall Pipe Line Co. laid 12 miles of 3-inch welded oil line, first pipe line outlet for the field.

Sinton Pipe Line Co. completed laying 17 miles of 6-inch welded oil line from Plymouth field in San Patricio County to Texas Co. terminal at Corpus Christi. Texas Corp. owns 55 per cent of the stock, balance owned by D. B. Cogswell and Williams Morgan of Houston.

Texas Pipe Line Co. laid a 6-inch welded oil line from the Pickett Ridge field and the Withers field both in Wharton County to the company's pump station at Markham in Matagorda County where it ties into the main 8-inch trunk line that extends to the company refinery at Houston. The line is approximately 15 miles.

At the Gillock area, Galveston County, Bennett Pipe Line Co. laid a 4-inch welded oil line to its refinery at Texas City, about 2 miles.

ALABAMA

Alabama legislature considered legislation to facilitate project ascribed to Pure Oil Co. and Gulf Gasoline Co. to move gasoline by barges from Louisiana through the port of Mobile, up the Tombigbee and Warrior rivers to Birmingham and across the state to Atlanta, Ga.

ARIZONA

Western Gas Co., of El Paso, extended its 6-inch line 45 miles to Superior, Ariz.

CANADA

Prairie Gas Utilities Syndicate, Ltd., of Regina, Saskatchewan, was incorporated to construct a 187-mile gas line from the Bowdoin field to supply Saskatchewan cities.

Union Gas Co. laid a 52-mile 10¾-inch gas line between the Dawn field, Lambton County, and London, Ontario.

Northwestern Utilities, Ltd., is adding 5½ miles of 12¾-inch between Edmonton and Viking field, Alberta.

Service Station Gasoline Price Is Highest Since 1930

(Continued from Page 99)

form, the continued adoption of chain-store taxes by other states points to the fact that in the near future practically all stations may be operated by independent dealers. Chain store taxes have been levied in a number of states in the past two years and this type of bill was introduced in nearly every state legislature in session in 1936.

Particularly noticeable during the first six months was the lack of any East Texas gasoline to exert a disturbing influence on the market. During the first six months of the year the entire West Coast was disrupted by the flood of crude oil produced by California operators, but once this condition was remedied West Coast markets at once rose to normal. Rodessa, once regarded as a threat to the market structure, has proved to be otherwise. This is no doubt due to the low-octane rating of the straightrun gasoline which discouraged the building of many small skimming plants. The field is now one year old and to date any extensive building of skimming plants has failed to materialize.

Thus the halfway post of 1936 ends with the average service-station price for the six months the highest since 1930. Consumption is surpassing previous peaks, and despite large stocks of motor fuel and high daily crude runs to stills, the industry generally is in a healthful condition. Also the past six months may have marked the turning point in so far as gasoline taxes were concerned. New York reduced its tax from 4 cents to 3 cents, effective July 1. Opposition to the high taxes imposed on gasoline, especially the federal tax of 1 cent, is becoming stronger, so that when congress and the various state legislatures convene for their next sessions it is possible that bills sponsoring reduction in gasoline taxes will be introduced.

Prices of Refined Products for Six Months Increase

(Continued from Page 100)

hold their crude runs to stills at a high level. Thus stocks continued to increase until the beginning of the vacation season when they exceeded the Bureau of Mines recommended figure by approximately 7,500,000 bbls. However, motor fuel consumption for the first half was somewhat larger than was forecast so that these stocks may prove to be only satisfactory working stocks.

Another condition resulting from the past winter was the exceptionally good market for kerosene and tractor fuels. The usual custom followed by refiners is to build up stocks of tractor fuels during the winter months but this year, due to the large demand for kerosene (chief constituent of tractor fuels) during the winter months, they entered the season with stocks at an unusually low level.

Steps taken by the Interstate Oil Compact Commission to curtail production had a decided effect in stabilizing the refined oil market and keeping the industry in a firm tone. However, much credit should be given to the individual producer for his whole-hearted cooperation in the curtailment of production to conform with demand.

A more complete and detailed summary of the average refinery prices and a comparison of the first half of 1936 prices with those of the past nine years is offered in the accompanying two tables.

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Fig. 1740 Gaso Duplex Piston Power Unit

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FIELD OPERATIONS

Summarizing the Week's Developments

A decline in completed work in the United States was noted in the week ending July 25, the total number of completions, 311, comparing unfavorably with the 353 completed wells of the previous week.

No pools that looked important were opened during the week but the Rodessa pool in Caddo Parish, Louisiana, was extended until it is within 1½ miles of the Miller County, Arkansas, line.

The slackening of drilling operations in the East Texas field is showing in the lessened number of new wells being brought in weekly. Production in the country's biggest field in the past week averaged 432,747 barrels.

The Talco pool in northeastern Texas was defined on the southwesterly side by a dry hole, and it is now cut off on three sides. Production in the pool was increased to 3,000 barrels per day by three new wells. The Hopkins County discovery well at Sulphur Bluff was still shut in without a test that would have given a line on its potentiality, but the owners have started another well two locations distant.

OKLAHOMA

Owners of acreage in Coal County, Oklahoma, are unconvinced that the area is barren of oil. Carter Oil Company and Ramsey Petroleum Corporation are starting a fourth deep test in the county. Only routine completions were reported from the fields of the state.

KANSAS

A 14,400-barrel well was completed and tested for potential in the Hauschild pool in Rice County, Kansas, producing from Conglomerate at 3,364-67 feet. It is two locations from a 10,000-barrel well recently completed. A wildcat has been started in Sheridan County north of the Wakeeny pool in Trego County, in western Kansas.

CALIFORNIA

California is being wildcatted from the Mexican line to Humboldt County up near the Oregon line. The San Joaquin Basin will be the outstanding field for the remainder of the year because of the opening of the Stevens field and the wholesale exploration that will result from it.

SOUTHWEST TEXAS

Aransas County, Texas, is assured of its first productive oil field with the increased flow in the recent discovery well. The well has tested as high as 100 barrels of oil a day. It first came in producing distillate. The Lopez field in Webb County was made to look better by a new well producing at the rate of 840 barrels per day. The North Pettus field was defined on the northwest by a dry hole. Three wildcats in Duval County were completed as failures.

WEST TEXAS

Tests in Yoakum and Gaines Counties continue to hold the interest of West Texas oil men. Good wells were completed in Crane, Ector, Howard, Winkler and Ward Counties during the week.

GULF COAST

The most interesting wells in the Gulf Coast are two tests in Galveston County being drilled by Sun Oil Company and Shell Petroleum Corporation, respectively. Wharton and Calhoun Counties are to be explored by wildcat tests. St. Mary Parish in Coastal Louisiana may have another pool, as a test there is reported to have drilled several feet of saturated sand.

ROCKY MOUNTAIN STATES

A 4,632-barrel well in the Monument field in Lea County was the largest of the crop of completions in southeastern New Mexico. Shell Oil Company of California has entered the Rocky Mountain field and established headquarters in Casper, Wyo., Denver, Colo., and Cut Bank and Billings, Mont., indicating a program of exploration and development embracing the whole district. Shell Petroleum Corporation is already well established in southeastern New Mexico.

Completions in All Fields

(Week Ending July 25, 1936)

	Oil	Gas	Dry	Total	1936 total comp. to date	1935 total comp. to date
Penna. Grade Fields	28	15	5	48	1,640	1,652
Lima Field	0	0	0	0	32	55
Central Ohio	1	5	3	9	173	226
Indiana	1	0	3	4	93	112
Illinois	0	0	0	0	23	9
Michigan	3	10	3	16	324	270
Kentucky	4	0	4	8	128	137
Kansas	21	0	10	31	894	646
Oklahoma	44	1	13	58	1,379	995
North Central Texas	32	0	31	63	*1,546	1,466
West Texas	27	0	2	29	793	418
Texas Panhandle	8	2	0	10	384	361
East Central Texas	6	0	2	8	169	136
East Texas	37	0	3	40	1,542	2,795
East Texas border	3	0	0	3	32	5
Gulf Coast Texas	19	1	7	27	642	574
Southwest Texas	36	3	13	52	1,622	774
Total Texas	168	6	58	232	6,730	6,529
North Louisiana	8	4	1	13	362	163
Gulf Coast Louisiana	2	0	4	6	212	213
Total Louisiana	10	4	5	19	574	376
Arkansas	0	1	0	1	52	80
Montana	2	0	0	2	120	78
Wyoming	2	0	1	3	48	31
Colorado	0	0	0	0	16	8
New Mexico	14	0	3	17	326	156
Utah	0	0	0	0	5	4
California	13	0	9	22	676	875
Total United States	311	42	117	470	13,233	12,239
Total previous week	353	21	94	468	12,288	11,859
Difference	42	21	23	2	.....	.....

Outstanding Fields—Highlights

(Week Ending July 25, 1936)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	1	6	2	264	98	7,294
Hastings	1	5	1	768	84	6,732
Loma Novia	3	8	7	2,220	537	14,020
Seven Sisters	4	15	2	530	229	6,900
Saxet Heights	2	10	2	380	125	6,120
Saxet	8	24	5	1,450	166	12,450
East Texas	39	181	37	*1,451	21,040	432,747
Talco	11	32	3	†158	11	3,000

*Average duration of flow 2 hours and 10 minutes. †Barrels per hour.

OKLAHOMA						
Oklahoma City (Capitol area)	5	42	8	5,451	110	41,160
Oklahoma City (old field)	1	1	0	0	971	90,790
Fitts	8	65	9	5,913	410	45,100
Burbank-S. Burbank	0	15	1	785	2,148	23,300
KANSAS						
Ellis County	4	30	3	4,771	39	1,760
Reno County	2	31	3	2,204	291	16,050
Russell County	4	37	9	9,571	435	18,515
Rice County	3	37	2	3,702	532	36,267
NEW MEXICO						
Lea County	12	73	13	16,455	891	68,330
LOUISIANA—TEXAS						
Rodessa, La.	4	39	6	6,406	236	61,150
Rodessa, Tex.	9	13	3	2,016	26	5,900
Gillis, La.	2	4	0	0	46	14,884
Tepetate, La.	2	3	0	0	22	4,853
MICHIGAN						
Porter-Yost	9	13	0	0	383	15,583
Crystal-Montcalm	5	20	0	0	135	5,757

Oklahoma Operations

By DAL DALRYMPLE

WILDCAT TEST STARTING ON BIG BLOCK IN COAL COUNTY

Wildcat operations, more or less in the background in Oklahoma in recent weeks, suddenly reclaimed interest with announcements of new tests to be drilled in virgin areas and resumption of work at old wells that are to be deepened. One wildcat that had been highly regarded showed unsatisfactorily on bailing test and was to be drilled deeper. Completion of several producers in the Oklahoma City and Fitts fields were features of operations in proven fields.

One of the new wildcats is on a 4,000-acre block of leases assembled in northern Coal County by Ramsey Petroleum Co. after preliminary work by the company's geological staff. Carter Oil Co. took a half interest in the block and agreed to drill the first well. It is the Carter Oil Co. No. 1 Hall, NE NE NW section 31-3-9, near the center of the block, which extends across the Pontotoc County line. This is the second wildcat drilled in Coal County by the Carter and Ramsey companies, the first being the disappointing Centrahoma test. Tide Water Oil Co. has announced location for a Wilcox sand test northeast of Pauls Valley, in Garvin County, at NE NE NW section 28-4-1e, on a community block comprising the S half of section 21 and N half of section 28-4-1. Other companies joining in the test are Sinclair Prairie Oil Co., Empire Oil & Refining Co., Stanolind Oil & Gas Co., Phillips Petroleum Co., Devonian Oil Co. and Darby Petroleum Corp.

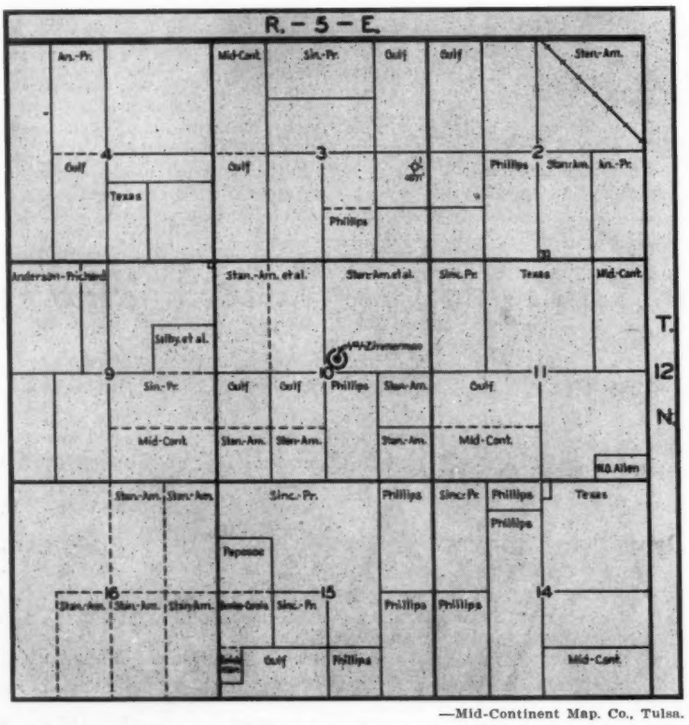
Work was to be resumed at Paul R. Robb and others No. 1 Vittitoe, C NE SE section 11-5s-4e, an old wildcat on the Oakland-Madill anticline northwest of Madill, in Marshall County. Work was suspended at total depth of 5,461 feet more than a year ago, when some of the leases in the block assembled by Mr. Robb and J. T. Grooms of Duncan, expired. The leases have been renewed and the test will be drilled to Wilcox sand by H. W. Marcum and the Patsy Oil Co., who have taken an interest in the block. In Stephens County, T. H. McCasland was preparing to resume work at his No. 1 Hildebrant, SW SE NE section 1-3s-7w, 6 miles southeast of Comanche, which was abandoned at 3,000 feet a year ago. Plans are to go to 5,000 feet in the new test.

In Oklahoma County, O'Shaughnessy and others No. 1 Berlowitz, SE SW NE section 9-12-3w, wildcat 1¼ miles northwest of the Oklahoma City field, bailed dry to within 50 feet of bottom Saturday, total depth being 6,636 feet, thought to be 10 or 12 feet above Wilcox sand. The hole was to be washed and if that failed to get results, it was to be deepened to Wilcox sand.

Pontotoc County

Nine new wells were completed in the Fitts field of Pontotoc County. Fleetborn Oil Corp. No. 1-A Morin, SE cor. section 20-2-7, made potential of 3,198 bbls. of oil and was completed at 4,338 feet, total depth. It flowed 486 bbls. in 5 hours after acidizing with 4,000 gallons and 302 bbls. in 2 hours after acidizing with 12,000 gallons. Top of Viola lime was 3,922 feet; Bromide, 4,223 feet. Stahl Petroleum Co. No. 5-B Dennis, SW cor. section 20, topped Hunton at 3,555 feet; Sylvan, 3,835 feet; total depth, 3,838 feet. After acidizing, it flowed 436 bbls. in 2 hours through tubing. Bishop Oil Co. No. 4 Simpson, NE NW NW section 28, made potential of 2,592 bbls. after acid treatment. Production was from Viola lime, topped at 3,839 feet, and Bromide, topped at 4,110 feet; total depth, 4,236 feet. Sinclair Prairie Oil Co. No. 9 Burris, SE NE NW section 27, topped Hunton lime at 3,390 feet; total depth, 3,510 feet. It was acidized and flowed 669 bbls. in 2 hours, net, through casing and tubing.

Magnolia Petroleum Co. No. 11 Metropolitan Life, SE NW SW section 27, flowed 410 bbls. in 3 hours through tubing before acidizing and 486 bbls. in 1½ hours through casing and tubing after acidizing, making potential of 3,575 bbls. Viola lime was topped at 3,604 feet; Bromide, 3,890 feet; McLish, 4,095 feet; total depth, 4,285 feet. The No. 12 Metropolitan Life, SE cor. section 22, topped Hunton at 3,433 feet; Sylvan, 3,801 feet; total depth, 3,804 feet. It flowed 246 bbls. through tubing in 2½ hours; was acidized and flowed 318 bbls. gross in 45 minutes, then 315 bbls. in 2 hours through tubing. Same operator's No. 9 Burris "A", NW SW NE section 27, flowed 208 bbls. in 1 hour through tubing. Top of Hunton was 3,323 feet; Sylvan, 3,636 feet; total depth, 3,641 feet. Same operator's No. 4 M. Norris, SE SW SE section 21, topped Hunton at 3,475 feet; Sylvan, 3,775 feet; total depth, 3,780 feet. It was acidized and flowed 416 bbls. gross in 1 hour and 172 bbls. net through tubing the second hour.



—Mid-Continent Map. Co., Tulsa.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Zimmerman, SW SW NE section 10-12-5, has opened a new producing area in Lincoln County, Oklahoma

Burke-Greis Oil Co. No. 2 Colbert, SE SE NW section 36-2-6, swabbed and flowed 430 bbls. of oil in 24 hours after acidizing with 5,000 gallons and 6,000 gallons. Top of Viola lime was 4,305 feet; Bromide, 4,450 feet; total depth, 4,500 feet.

In the Bebee area, Benedum & Trees No. 5 Malloy, an old well in section 30-5-5e, was deepened from 2,278 to 2,630 feet, was shot, pumped 60 bbls. of oil in 24 hours, recompleted.

New work in Pontotoc County: Amerada Petroleum Corp. No. 2 Woolley, SW SE SE section 21-2-7, cellar; Magnolia Petroleum Co. No. 5 M. Norris, SW SW SE section 21-2-7, cellar; Sinclair Prairie Oil Co. No. 12 Burris, SE NW NW section 27-2-7, building rig; Carter Oil Co. No. 20 Richards, SE SW SE section 30-2-7, cellar; Lake Oil Co. No. 8 Robertson, SW SE SW section 19-5-5, cellar and pits; Grady Vaughn and others No. 2 Davis, SE SW SW section 19-5-5e, rig.

Estimated Daily Production

Estimated daily average production in Oklahoma for the week ending July 25 and for the preceding week is as follows:

	Barrels	
	July 25	July 18
Allen	11,850	10,400
Asher-West Asher	625	700
Burbank	7,800	7,650
South Burbank	15,500	15,250
Balance Osage	23,500	23,750
Blackwell district	4,500	4,500
Bristow-Slick	8,400	8,400
Chandler	4,250	4,250
Crescent	6,500	6,500
Cromwell	3,500	3,500
Cushing-Shamrock	11,500	11,500
Duncan district	4,100	4,100
Edmond	11,425	11,700
Fish	8,500	8,800
Fitts	49,250	45,100
Gray	1,400	1,525
Graham	4,700	4,200
Healdton	9,500	9,200
Hewitt	4,650	4,300
Holdenville	1,050	1,025
Keokuk	6,975	6,975
Konawa	1,950	1,725
Lucien	13,250	12,850
Marshall-Lovell	1,250	1,250
Oklahoma City	131,950	149,950
Olympic	7,150	6,350
Papoose	1,000	1,000
Polo	3,250	3,300
Sasakwa and townsite	3,650	3,600
Sholem-Alechem	3,600	3,350
Seminole field:		
Bowlegs	12,450	12,825
Carr City	6,475	6,750
Earlsboro	8,900	7,050
South Earlsboro	900	925
East Earlsboro	10,250	10,375
Little River	13,400	13,825
East Little River	1,050	1,050
Maud	900	1,000
Mission	2,400	2,475
Seminole	9,775	10,050
East Seminole	4,545	3,250
Searight	5,850	5,650
Total Seminole	76,895	75,225
St. Louis-Pearson	24,000	24,750
Tatums	3,400	3,100
Tonkawa-Garber-Thomas	5,400	5,400
Wewoka	4,000	4,000
Yale-Jennings	4,000	4,000
Other pools	65,000	66,000
Total Oklahoma	548,220	559,175

Oklahoma County

Eight new producers were completed in the Capitol extension of the Oklahoma City field. Four were in section 15-12-3w, north of the city limits, and were smaller producers. Skelly Oil Co. and Uscan Oil Co. No. 1 McClannahan, SW NW SE section 15, topped second Wilcox sand at 6,443 feet; total depth, 6,481 feet; flowed 139 bbls. of oil in 6 hours and made potential of 504 bbls. Fairfax Oil Corp. No. 3 Russell, NE SW SE section 15, Block 2, Oklahoma Heights Addition, flowed 85 bbls. in 6 hours, making potential of 346 bbls. Second sand was topped at 6,426 feet; total depth, 6,429 feet. Barnsdall Oil Co. No. 2 Oklahoma Heights, SE SW SE

section 15, Block 3, Oklahoma Heights Addition, flowed 42 bbls. in 22 hours from second Wilcox sand topped at 6,410 feet; total depth, 6,450 feet. Anderson-Prichard Oil Corp. No. 1 Wheeler (formerly Robert Murray and others), SE SE SE SW section 15, topped Simpson formation at 6,340 feet; total depth, 6,530 feet. It was plugged back 8 feet, casing perforated and after acidizing two times it flowed 211 bbls. net in 24 hours.

Black Gold Petroleum Corp. No. 2 Sawyer, SW SW NE section 22-12-3w, topped second Wilcox sand at 6,414 feet; total depth, 6,479 feet. It flowed 1,357 bbls. in 6 hours and made potential of 6,674 bbls. British-American Oil Co. and others No. 1 Alta Vista, SE NW SW section 23-12-3w, flowed 1,797 bbls. in 6 hours, making potential of 7,210 bbls. on gas lift. Second Wilcox sand was topped at 6,371 feet; total depth, 6,486 feet. Skelly Oil Co. No. 1 Gast, Block 8, Gast Heights Addition, section 26-12-3w, was bottomed at 6,440 feet and flowed 1,400 bbls. of oil in 48 hours. Production was from School Land sand topped at 6,340 feet. Barnsdall Oil Co. No. 1 Mariposa, Block 10, Mariposa Addition, section 26-12-3w, had second Wilcox sand at 6,320-88 feet; total depth, 6,391 feet. It flowed 1,121 bbls. in 6 hours, making potential of 4,905 bbls.

Barnsdall Oil Co. and Fairfax Oil Co. No. 3 Bracht, NE SW SW section 23-12-3w, Block 13, Fairfax Addition, an old well, was deepened from 6,469 feet to 6,527 feet, flowed 4,410 bbls. in 24 hours, recompleted.

In the Britton sector, Sinclair Prairie Oil Co. and Slick-Urschel Oil Co. No. 1 Kratky, SE SE NE section 19-13-3w, an old well, was plugged back from 6,718 feet to 6,694 feet, acidized, flowed 482 bbls. in 24 hours, recompleted.

New work in Oklahoma County was as follows: British-American Oil Co. No. 1 Russell, SE NE SE section 22-12-3w, an old well, was preparing to deepen; Inland Development Co. No. 1 Harn, SE SE NW section 27-12-3w, drilling at 953 feet; Sunray Oil Co. and Phillips Petroleum Co. No. 2 Harn, NE SE SE NW section 27-12-3w, cellar; Southwest Petroleum Co. No. 1 Smith, SW SE SE section 27-12-3w, Block 18, Howe's Capitol Addition, rig; Phillips Petroleum Co. No. 1 Howe, SW SE SE section 27-12-3w, Block 24, Howe's Capitol Addition, rig.

Seminole County

W. B. Pine No. 4 Cheparney, SE NE SW section 12-5-7, in the Allen area, Seminole County, topped Wilcox sand at 4,243 feet; total depth, 4,259 feet. After a 10-quart shot, it flowed 375 bbls. in 15 hours. Atlantic Oil Refining Co. and others No. 2 Patterson, SE SW NE section 8-6-7, flowed 324 bbls. through casing in 4½ hours from Wilcox sand at 3,935 feet; total depth, 3,941 feet, completed. Wood Oil Co. No. 2 Templeton, NE SE SW section 28-9-6, topped Wilcox sand at 4,416 feet; total depth, 4,148 feet, swabbed 750 bbls. in 48 hours and was completed. Exchange Drilling Co. No. 1-A Fixico, C SE NE section 23-9-6, flowed 120 bbls. of oil and 113 bbls. of water in 24 hours after acid treatment, producing from Hunton lime topped at 3,965 feet; total depth, 3,995 feet. W. A. Delaney No. 1-A Boring, NW SE NW section 20-9-7, East Seminole area, topped Booch sand at 3,342 feet; Wapanucka, 3,418 feet; total depth, 3,438 feet; plugged back to 3,429 feet and was completed. After shooting, it flowed 86 bbls. of oil and 30 bbls. of water in 12 hours. Oklahoma Oil Corp. No. 2 Coody, SW SW SE section 18-9-7, was acidized and flowed 550 bbls. of oil in 24 hours. Top of Hunton lime was 4,048 feet; total depth, 4,091 feet. Carter Oil Co. and others No. 4 Aldridge, C S half NE NW section 35-11-6, Keokuk area, topped Misener sand at 4,136 feet; total depth, 4,149 feet. After acidizing, it flowed 123 bbls. of oil net in 16 hours.

J. E. Crosbie, Inc., and Blankenship & Quiett No. 1 Biggers (Casey), C N half N half NE section 30-6-8, wildcat in the Sasakwa district, topped Dolomite at 4,125 feet; Wilcox sand, 4,170 feet; and was dry and abandoned at 4,175 feet. Carter Oil Co. and others No. 1 Pryor, C W half NW NW section 18-10-6, encountered water and was dry and abandoned at 4,619 feet, total depth. Twin State Oil Co. No. 1 Hamm, SW SE SW section 24-10-7, wildcat, topped second Wilcox sand at 4,389 feet and was dry and abandoned at 4,400 feet, total depth.

Texas Co. No. 2 Carolina, SW NW SE section 27-8-8, an old well deepened from 4,197 feet, drilled to 4,250 feet, total depth, failed to make a producer by plugging back, ripping the casing and acidizing and was dry and abandoned. Same operator's No. 1 Janey, SE NE SW section 11-7-6, an old well deepened from 4,216 feet, topped Wilcox sand at 4,240 feet; second Wilcox, 4,269 feet; total depth, 4,285 feet; swabbed 1,178 bbls. in 48 hours, recompleted.

The following new work was reported in Seminole County: Atlantic Oil Producing Co. No. 1 Carolina, NW NE SE section 8-6-7, moving in tools; E. W. Jones and others No. 1 Bond, NW SW SW section 18-6-8, cellar; Wood Oil Co. No. 2 Ashby, SW NE NW section 22-7-5, location; Mid-Continent Petroleum Corp. No. 2 McDaniels, NE SE SW section 7-9-6, rig; Kingwood Oil Co. and Gillespie No. 1 Maracle, NW SW NE section 13-9-7, wildcat, drilling at 1,660 feet; Wood Oil Co. No. 1-A Mills, NE NE SE section 19-9-7, building rig; Burke-Greis Oil Co. No. 1-A Dunson, SE NW NW section 3-9-8, building rig; Tom Phillips & Kimrow Drilling Co. No. 1 Noble, NW NW SW section 20-9-7, rigging up rotary; Amerada Petroleum Corp. and others No. 1 M. Pyle, NW NW SE section 3-10-5, cellar; Gulf Oil Corp. No. 2 Scott Fife, C E half NE NW section 11-10-6, an old well deepened from 4,171 feet to 4,190 feet, shut in for tankage; Carter Oil Co. No. 1 Hully, NE NE SE section 15-10-6, location; Pioneer Drilling Co. and Texas Co. No. 1 Twinam, SW NE NE section 35-11-6, rig.

Pottawatomie County

Amerada Petroleum Corp. and others No. 1 Simpson, NE cor. section 9-10-5, in the Stout area, Pottawatomie County, topped Wilcox sand at 4,673 feet; total depth, 4,680 feet. It swabbed 245 bbls. of oil and 40 bbls. of water in 20 hours and was completed after pumping 65 bbls. of oil and 210 bbls. of water in 24 hours. Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 2 Goodman, NW NW NE section 5-10-4, in the Shawnee pool, had first Wilcox sand at

Shaffer Portable Drawworks

with Cut Steel Sprockets and Roller Chain Throughout

FEATURES:

1. 4-Speed Jack Shaft Type
2. Friction Clutch Drive to Rotary Table
3. Jack Shaft Roller Bearing Equipped
4. Line and Drum Shaft—Babbitt Bearings. (Roller Bearings Optional)
5. Drip Oiling System to all Chains and Bearings
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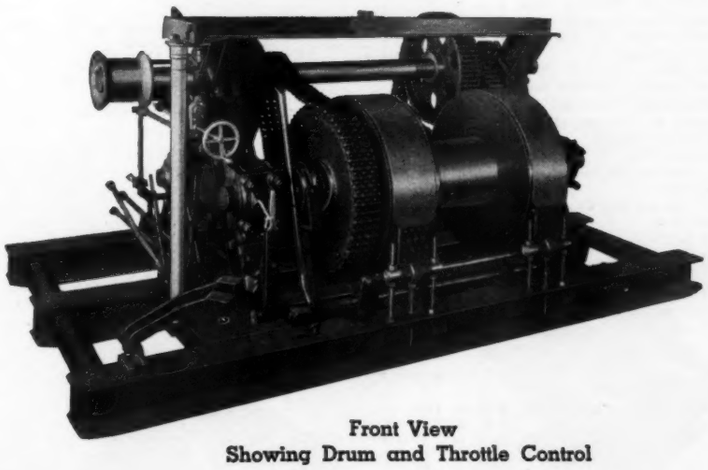

Front View
Showing Drum and Throttle Control

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5,482-5,540 feet; topped second sand at 5,562 feet and was dry and abandoned at 5,573 feet, total depth.

No new tests were reported in Pottawatomie County, but Allen Huckelberry No. 3 Gray, SW cor. section 25-6-4, an old well being deepened from 2,944 feet, was drilling at 3,455 feet.

Okfuskee County

Carter Oil Co. No. 2 King, C SE SW section 2-11-8, in the Dill pool, Okfuskee County, topped Hunton lime at 3,897 feet; total depth, 3,919 feet, completed. It was acidized and flowed 322 bbls. in 4½ hours through tubing. Same operator's No. 1 Gray, C SE SE section 11-11-8, was acidized and pumped 99 bbls. of oil and 53 bbls. of water in 10 hours, completed. Top of Hunton lime was 3,942 feet; total depth, 3,956 feet.

Blackwell Oil & Gas Co. No. 2 Dalton, SW SE NE section 36-10-8, in the Okfuskee County sector of the Olympic pool, topped Senora sand at 1,722 feet; total depth, 1,747 feet; was shot and flowed 110 bbls. in 24 hours through tubing. Morton Oil Co. and O. C. Moffitt No. 5 Grayson, NW SE SE section 23-11-11, was dry and abandoned at 2,450 feet, total depth.

New work in Okfuskee County: Manahan & Grisso No. 10 Dalton, SW NE SE section 36-10-8, set 10-inch casing at 42 feet, wating; H. B. & M. and Mansion No. 2-A Caney, SW NE NE section 26-12-11, an old well rigging up to deepen; Pure Oil Co. No. 2 Rentie, NE NW NE section 26-12-11, an old well, preparing to deepen.

Osage County

One new producer was completed in the South Burbank area of Osage County. Lewis Production Co. No. 3 Callahan, SE SE SW section 23-26-6, topped Bartlesville sand at 2,873 feet; total depth, 2,928 feet. It was shot with 120 quarts at 2,882-2,928 feet and flowed 785 bbls. of oil in the first 24 hours. Same operator's No. 6 Whitehom, NE SW SW section 10-24-7, in the Naval Reserve area, was shot with 80 quarts and flowed 24 bbls. in 24 hours. Top of Bartlesville sand was 2,478 feet; total depth, 2,562 feet. Mid-Co. Oil Corp. No. 1-A Osage, SW cor. section 17-22-10, pumped 30 bbls. of oil in 24 hours and was completed after topping Burgess sand at 1,942 feet, drilling to 2,000 feet, total depth, plugging back to 1,971 feet and shooting. L. D. Simons and others No. 6 Osage, SW NE NW section 2-21-8, topped Bartlesville sand at 2,495 feet; total depth, 2,511 feet. It was shot and swabbed 15 bbls. of oil in 24 hours, completed.

New work in Osage County: Chevalier & Simon No. 1 Osage, SE cor. section 24-23-9, wildcat, location; Lewis Production Co. and Continental Oil Co. No. 15 Ke-Ne-Kah, NE SW SW section 16-24-7, rig on ground; Peters Oil Corp. and Sinclair Prairie Oil Co. No. 112 Sawyer, NW SW NE section 24-24-7, an old well being deepened at 2,500 feet; Lewis Production Co. No. 8 Osage, SE NW NE section 28-24-7, rig on ground; Indian Territory Illuminating Oil Co. No. 392 Osage, NE cor. section 29-25-8, old well preparing to deepen; Peters Petroleum Corp. No. 2 Osage, NW NW SW section 26-25-9, an old well, to deepen; Lewis Production Co. No. 5 Callahan, SW NE SW section 23-26-6, rig.

Hughes County

J. A. Chapman No. 5 Fee, SE NW NW section 1-9-8, in the Olympic pool, Hughes County, pumped 25 bbls. of oil in 24 hours and was completed after topping Senora sand at 1,713 feet, drilling to 1,730 feet and plugging back to 1,720 feet. Phillaine Oil Co. No. 3 McCaslin, NW NE NE section 11-9-8, topped Senora sand at 1,752 feet, was shot with 40 quarts after drilling to 1,800 feet, total depth, and swabbed 75 bbls. in 24 hours, completed.

Two new tests were reported in Hughes County. Amerada Petroleum Corp., Stanolind Oil & Gas Co. and Sinclair Prairie Oil Co. No. 1 McGertt, NW NW SE section 31-9-9, was a cellar. Stanolind Oil & Gas Co. No. 3 Roger "D", NE SE NW section 8-6-8, was a cellar.

Garvin County

B. F. Lundy No. 1 G. C. Prince, NE NE SE section 32-1n-2w, was the location for a new wildcat test in southwestern Garvin County, just north of the Carter County line.

Creek County

Helvie & Scott No. 4-A Land, C SE SE section 2-18-11, Creek County, was shot with 50 quarts and produced 12 bbls. of oil in 24 hours from sand at 1,507-21 feet, total depth, completed. L. B. Jackson No. 4 Hays, CEL SW section 13-17-8, had Bartlesville sand at 2,760-72 feet, swabbed 15 bbls. of oil in 24 hours and was completed. Pippis and others No. 1-A Kumrie, SE SW SW section 23-17-9, was abandoned at 1,325 feet, total depth. Big Four Petroleum Co. No. 1-B Evans, NW NW SE section 31-19-9, topped Wilcox sand at 3,062 feet; and was dry and abandoned at 3,098 feet, total depth.

Sinclair Prairie Oil Co. No. 5 Roberts, NW SW SW section 8-16-9, an old well, was deepened from 2,675 feet to 2,969 feet, total depth, and abandoned. Same operator's No. 20 Jones, NE SW NW section 3-17-7, an old well, deepened from 2,510 to 2,572 feet, was shot with 80 quarts, pumped 15 bbls. of oil in 24 hours and was recompleted.

New work in Creek County: Sinclair Prairie Oil Co. and others No. 9 Jones, C SE NW section 4-17-7, location; Plymouth Oil Co. No. 1 Hardridge, NW SE NW section 13-14-10, location.

Okmulgee County

Quinlan and others No. 1-A Adams, C SE NE section 8-14-12, Okmulgee County, had Wilcox sand at 2,711 to 2,726 feet, total depth, and was dry and abandoned.

Kashoma No. 2 Scott, CWL SW NE section 23-13-14, an old well, pumped 25 bbls. of oil in 24 hours after deepening from 1,287 feet to 1,728 feet, and was recompleted.

The following new operations were reported in Okmulgee County: Francis Corp. No. 1-A Robertson, NE NW SW section 33-15-14, location; Steighner and others No. 2 Colbert, SE NE NE section 14-14-14, machine; Rebold No. 2-A Johnson, CEL NE SE section 27-13-13, location.

Tulsa County

Crews & Armstrong No. 1 Squire, C NW SE section 8-16-14, Tulsa County, pumped 5 bbls. of oil in 24 hours after drilling to 2,460 feet, total depth, plugging back to 1,517 feet and shooting with 80 quarts; completed. J. M. Gril No. 1 Big Pond, NE SE SW section 11-18-12, was dry and abandoned at 2,180 feet, total depth. Mechling No. 4 Luster, NE SW NE section 14-19-13, was dry and abandoned at 1,324 feet, total depth.

Kay County

Shell Petroleum Corp. and Continental Oil Co. No. 2 Biddle, NW NE SW section 5-28-1w, Kay County, an old well, was preparing to deepen. Robert Wilson and others No. 1 Dickerson, NE NE SW section 20-29-1w, new Kay County wildcat, had dug cellar and pits.

Payne County

Two new tests were reported in Payne County. Gulf Oil Corp. No. 2 George, SE NW NW section 4-19-5, was a location. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Eagle, SW cor. section 28-19-5, had dug pits.

Noble County

Phillips Petroleum Co. and Shell Petroleum Corp. No. 1-A Brumfield, NW SW NW section 22-23-2w, Noble County, an old well, plugged back from 4,541 feet to 4,239 feet, and was preparing to shoot.

Logan County

New work in Logan County was as follows: Continental Oil Co. No. 4 McConnell, NE SW SE section 28-17-4w, Crescent pool, location; Carter Oil Co. and Gulf Petroleum Corp. No. 1 Walker, C NE NE section 33-17-4w, old well preparing to deepen; same operator's No. 2 Walker, SW NE NE section 33-17-4w, old well, rigging up to drill deeper.

Coal County

W. A. Delaney and Choctaw Oil Co. No. 1 Sawyer, SW SE NW section 7-1n-8e, in the Jesse district but across the line in Coal County, was a location.

Carter County

Louis Sikes No. 2 Brady, NE SE SW section 19-1s-2w, Carter County, total depth, 1,454 feet, pumped 20 bbls. of oil in 24 hours and was completed. Skelly Oil Co. No. 2 Pierce "C", SE SE NE section 17-2s-2w, drilled to 2,203 feet, plugged back to 1,792 feet, pumped 20 bbls. of oil in 24 hours and was completed. Pure

(Continued on Page 185)

They Stand the gaff

IXL
The Mark of Quality

FRICK-REID SUPPLY CORP.
Tulsa, Okla.
Warehousing Distributor for Middle West Oilfields.
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2122 E. 7th St., Los Angeles,
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IXL Pumping Reducers furnished as Standard Equipment by:
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Atlas Supply Co., Muskogee, Okla.
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Decker Tool & Supply Co., Electra, Texas.
Hercules Supply Co., Fort Worth, Texas
International Supply Co., Tulsa.
Jarecki Mfg. Co., St. Louis, Mo.
Muskogee Iron Works, Muskogee, Okla.
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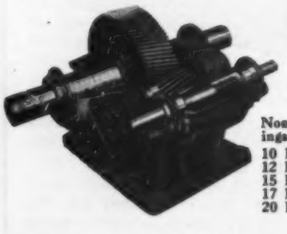
Nominal H.P. ratings at 20 S.P.M.	
21 S O	25 H.P.
26 S O	40 H.P.
20 S O	60 H.P.

IXL Helical Pumping Reducers are not just ordinary industrial speed reducers, but are especially designed for the heavy service of fluctuating oil field pumping loads. Long, maintenance-free life are built into each unit through years of research and experiment in the oil fields by Foote Brothers' engineers. There has not been a failure in four years of service.

Above is the IXL Single Reduction Unit, built to Foote Bros. engineering standards for severe oil field service. Note table of ratings.

The IXL Double Reduction Unit is illustrated at the left with accompanying ratings.



Nominal H.P. ratings at 20 S.P.N.	
10 D O	8 H.P.
12 D O	30 H.P.
15 D O	50 H.P.
17 D O	70 H.P.
20 D O	87 H.P.

New Gear Data Book
Complete gear reduction data is now available in our new Bulletin 402. Given are H. P. ratings, load capacities, specifications, dimensions, over-hung load capacities, and formulae for selecting the right IXL pump reducer.
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THREE
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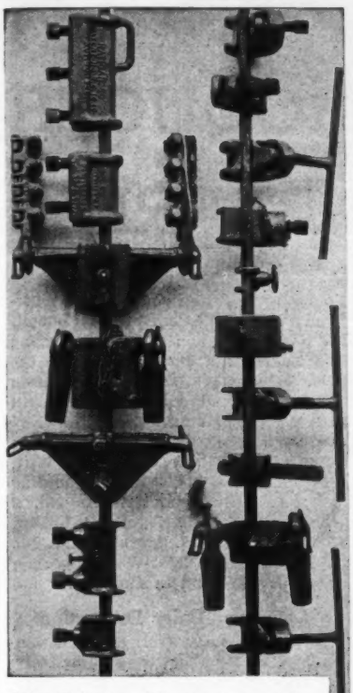

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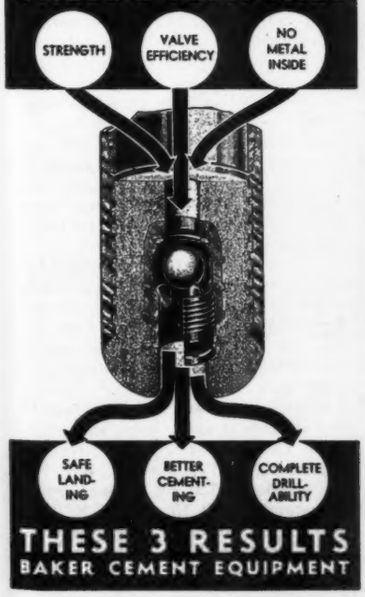
THESE 3 FEATURES



THESE 3 RESULTS
BAKER CEMENT EQUIPMENT

Among Gulf Coast Drilling Contractors

Cron & Gracey are moving in a rig to the St. Martinsville field in St. Martin Parish for No. 1 fee, to be drilled for Continental Oil Co. Two wells are being completed for Stanolind Oil & Gas Co. at South Houston and 4 other rigs are active at Manvel and West Columbia for Texas Co., one at Barbers Hills for Sinclair Prairie and one at Placedo for Barnsdall Oil Co.

Ben (Bud) Coyle apparently has opened another field in St. Mary Parish in the light of the showing encountered in No. 1 Laws Realty Co. which is being drilled for Mike Hogg and others. Bottomed in sand at 4,184 feet, it is reported to have shown several feet of saturated oil sand. In the meantime at the Jeanerette field, No. 1 Barrileau being dug for Herton Oil Co. has reached the oil sand at 7,253 feet and is to be tested through the drillstem. Another rig is being moved in for No. 1 State located on the edge of the Bayou Teche.

Rutherford Drilling Co. has recompleted No. 1 Langham in a deep sand at Van Vleck for Skelly Oil Co. and has spudded in on No. 2 Metzger for the same money. This field was discovered as a distillate field two years ago and recently was converted into an oil field. All of the 11 producers have been drilled by Rutherford and it is being developed into one of the best fields on the Gulf Coast.

Smith & McDannald have added another producer to their list at South Houston by the completion of No. 1 Lamb which flowed 418 bbls. a day from a depth of 3,980 feet. Two other rigs are active in the field and at Louise No. 3 Houston is being rigged up for Pure Oil Co. In Zavalla County Bay Oil Corp.'s wildcat was deepened to 6,917 feet and is shut down.

Noble Drilling Co. has reached the contract depth of 8,500 feet on Strake Petroleum Corp. No. 1 Miller, a wildcat test in Calcasieu Parish, and the hole is scheduled to be abandoned after an electrical coring test is run. In the meantime the same company No. 1 Poole in Brazoria County is shut down and a rig is being moved in at Turtle Bay for Stanolind Oil & Gas Co. No. 3 State.

Loffland Brothers have two rigs running at the Tepetate field for Continental Oil Co. and are moving in a rig to the St. Martinsville field for Tidewater Oil Co. No. 1 Domengeaux, an old well which is to be deepened. Another rig is on location at the Seadrift prospect in Calhoun County for Continental Oil Co. For the same company at Abbeville, in Vermilion Parish, plug is being drilled on No. 1 Hebert preparatory to drilling to 13,000 feet. Its present depth of 10,956 feet is the greatest ever drilled on the Gulf oast.

Glenn H. McCarthy has cemented surface casing in his No. 1 Kilgore at the Cotton Lake prospect in Chambers County and is rigging up on two more tests at Anahuac for Humble Oil & Refining Co.

C. & C. Drilling Co. completed its second producer at South Houston for Dick Schwabe and has reached a depth of 6,778 feet on Houston Oil Co. No. 1 Helber at the Eureka Heights field on the outskirts of the Houston city limits.

R. J. Sullivan, engineer in the gas department of Humble Oil & Refining Co. at Houston, Tex., has been transferred to the East Texas division as gas plant superintendent in charge of the London and Kilgore gasoline plants.

J. H. Galloway, district petroleum engineer for Humble Oil & Refining Co. at the Amelia field, has been transferred to the San Antonio division. His position at Amelia was taken over by J. W. Winfrey who was transferred from the Houston, Tex., office.

Fishing for stuck drill pipe under 2,400 pounds of gas pressure is the job of this crew employed by Otis Pressure Control, Inc., which encountered such a condition on a test in Jefferson County. Standing, left to right: E. D. Southerland, J. G. Hamic, W. C. Witcher, W. E. Coleman, and J. C. (Red) Luccous

Now you can easily and economically take cores from the side walls of an uncased hole, to check correlating equipment or when cores have been lost. Look

on Page 192 of the 1936 Composite Catalog for details of the BAKER ROTARY HYDRAULIC WALL SAMPLER.

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Kansas Developments

By
DAL DALRYMPLE

NEW HAUSCHILD PRODUCER IS RATED AT 14,400 BARRELS

The Hauschild pool of southern Rice County is proving one of the most sensational areas opened in that state in recent years. The newest well is the L. E. Douglas and Derby Oil Co. No. 2 Hauschild, CNL NW section 15-21-7w. It blew in while drilling, flowing 1,100 bbls. in 1 hour and 50 minutes, with tools still in the hole. It was necessary to cut the drilling line in order to close the master gate. It was given a potential rating of 14,400 bbls. Saturday, following production test under direction of the conservation department of the Kansas Corporation Commission. Production is from Conglomerate pay, topped at 3,364 feet, where pipe was set. Total depth is 3,367 feet. It is one location west of the same operators' No. 1 Hauschild, discovery well, completed recently as a 4,000-bbl. producer.

The producing horizon of the wells in the Hauschild pool have been classed by some as Conglomerate, and by others it was reported as Chat. The pay zone is on top of the Mississippi lime, and so far it has been unusually prolific. No water has been found in or below the producing formation in that section of Rice County so far. The accompanying map shows location of the new well, and other completions in the pool in sections 10 and 15. Three wells in the south end of the Wherry pool to the northeast also are shown.

A 10,000-bbl. well recently was completed in the Hauschild pool by Ernest Shaffer and the Bridgeport Machine Co. at No. 1 well in NW NW NE section 15, east of the two Douglas wells. Several new tests are starting in the area.

Several new wildcat tests are starting in Kansas. One of the new tests is the O. A. Roberts and others No. 1 Carrick, C NW section 34-9-27w, in Sheridan County, in the northwestern part of the state, west of Graham and northwest of Trego Counties. It is on a 40,000-acre block, 32 miles northwest of the Wakeeney pool, nearest production, and 15 miles southeast of Hoxie. Other tests were starting southwest of the Wellington pool in Sumner County; east of Bazine in Ness County, and in Ellis, Trego and Rice Counties. Several large producers were completed in the proven fields, Russell County setting the pace for the past week with the most completions.

Russell County

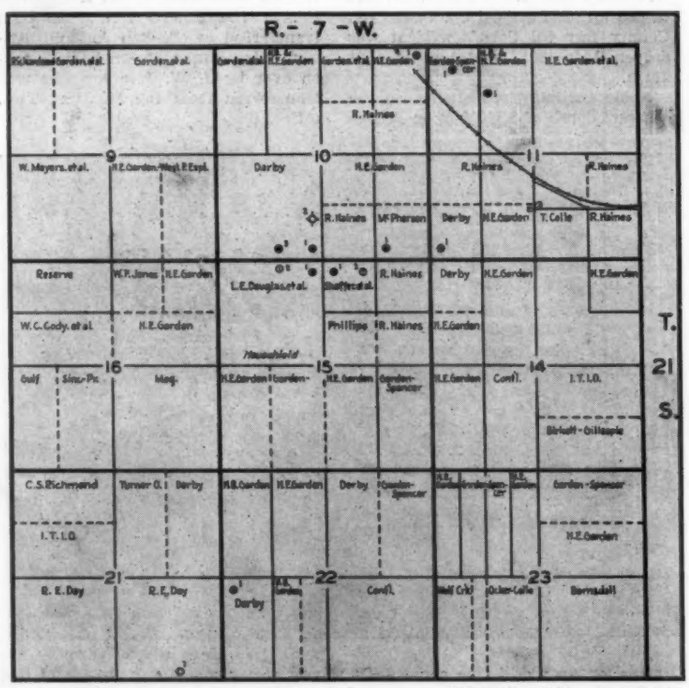
Nine oil wells and four dry holes were completed in Russell County during the week. W. I. Southern, Inc. No. 3 Shaffer, SE NE NE section 31-15-13w, in the Sellens area, made potential of 2,232 bbls. of oil after acidizing with 4,000 gallons. Production was from Siliceous lime, topped at 3,304 feet; total depth, 3,309 feet. Top of Oswald lime was 3,064 feet. Coralena Oil Co. No. 2 Trapp, NE SE SE section 30-15-13w, topped anhydrite at 792 feet; Oswald, 3,003 feet; Siliceous, 3,260-62 feet, total depth. After acidizing, it made potential of 2,065 bbls. Skelly Oil Co. No. 2 Figgins, NW SW SW section 34-15-13w, made potential of 514 bbls. of oil, with 69 bbls. of water, after acid treatment. It had Siliceous lime at 3,352-59 feet, total depth. Carter Oil Co. No. 1 Sellens, NW cor. section 15-15-13w, topped anhydrite at 810 feet; Kansas City, 3,047 feet; Siliceous, 3,339 feet; had a hole full of water at 3,365 feet, total depth, and was dry and abandoned.

Smoky Hill Oil Corp. No. 6 Miller, SW SE SW section 30-14-13w, in the Hall pool, was acidized with 8,000 gallons and made potential of 1,558 bbls. Production was from Kansas City lime, topped at 2,836 feet; total depth, 2,946 feet. Top of anhydrite was 658 feet; Topeka, 2,540 feet.

Empire Oil & Refining Co. No. 1 Ebel, SW cor. section 24-14-14w, topped Oswald lime at 2,932 feet; had pay at 3,013-16 feet; increase at 3,136-40 feet; granite wash, 3,180 feet; granite, 3,265 feet; total depth, 3,285 feet. It swabbed 90 bbls. in six hours and made potential of 171 bbls. J. C. Schaffer, Inc. No. 3 Polcyn, SE NE NE section 10-14-15w, made potential of 1,275 bbls. from Gorham sand at 3,267-69 feet, total depth. Central Petroleum Co. No. 4 Foster "A," SE SE NW section 3-14-15w, topped anhydrite at 910 feet; Topeka, 2,760 feet; Oswald, the producing formation, 3,034 feet; total depth, 3,075 feet. It was acidized and made potential of 684 bbls. of oil. Same operator's No. 6 Witt, NW SW SE section 3-14-15w, topped anhydrite at 913 feet; Dodge, 3,000 feet; Oswald, 3,038 feet; granite wash, 3,291 feet; granite, 3,306-19 feet, total depth, and was dry and abandoned. Billings No. 3 Witt, NE SW SW section 3-14-15w, was dry and abandoned in granite wash at 3,289-3,313 feet, total depth. It topped anhydrite at 897 feet; Dodge, 2,992 feet; Oswald, 3,024 feet.

Bridgeport Machine Co. No. 1 Mills, SW NW SE section 33-13-15w, in the Gorham area, had Gorham sand at 3,290 feet, total depth, and made potential of 892 bbls. of oil, with 40 per cent water. Texas Co. No. 2 Ginther, NE SE NW section 19-12-15w, in the Fairport pool, topped Oswald lime at 2,963 feet; total depth, 3,027 feet; pumped 180 bbls. in 12 hours and made potential of 434 bbls. Top of anhydrite was 888 feet. Central Petroleum Co. No. 2 Ginther, NW NW SE section 19-12-15w, had a hole full of water at 3,135-40 feet, total depth, and was dry and abandoned. It topped Topeka lime at 2,798 feet; Dodge, 3,030 feet; Oswald, 3,054 feet.

New work in Russell County: Joe Aylward No. 2 Ginther, NW SE NW section 19-12-15w, moving in material; Camac Oil Co. No. 1 McConnell, C SW SE section 22-13-14w, rigging up machine; Bridgeport Machine Co. No. 1 Marmis, SE NE SW section 33-13-15w, rigging up; Smoky Hill Oil Corp. No. 1 Miller, NE NW NW section 31-14-13w, moving in material; Central Petroleum Co. No. 7 Witt, NW SE SE section 3-14-15w, building rig; A. Billings and others No. 2 Marmis, NW NE NE section 9-14-15w, building rig; W. I. Southern, Inc. No. 1 Boomhower, NW SW NW section 32-15-13w, moving in material.



—Mid-Continent Map Co., Wichita.

Big wells are becoming common in the Hauschild pool, southern Rice County, Kansas. Map shows latest completions. Several tests were started since map was made

Estimated Daily Production

Estimated daily average production in Kansas for the week ending July 25 and for the preceding week is as follows:

	Barrels	
	July 25	July 18
Oxford City	2,900	3,850
Burrton	13,450	13,400
Ritz-Canton	6,100	6,200
Hollow-Nikkel	3,875	3,850
Voshell	2,900	2,900
Ellsworth County:		
Lorraine-So. Lorraine	8,201	7,860
Other pools	1,584	1,830
Rice-Barton Counties:		
Chase	10,410	9,809
Raymond	3,505	3,490
Silica	13,840	12,380
Keesling	2,770	2,905
Miscellaneous Rice	5,742	6,113
Miscellaneous Barton	2,717	3,227
Russell County:		
Fairport	2,510	2,810
Gorham	3,060	3,500
Russell	2,950	3,150
Sullivan	2,005	2,980
Other pools	7,990	8,012
Sedgwick County:		
Valley Center	1,309	1,320
Greenwich	1,372	1,680
Robbins	1,551	1,705
Eastborough	792	820
Other pools	378	427
Ellis County	1,760	2,430
Kingman County	660	685
Stafford County	2,645	2,399
Greenwood County	10,250	10,300
Butler County	17,975	18,210
Other field	22,124	23,008
Total Kansas	157,325	161,250

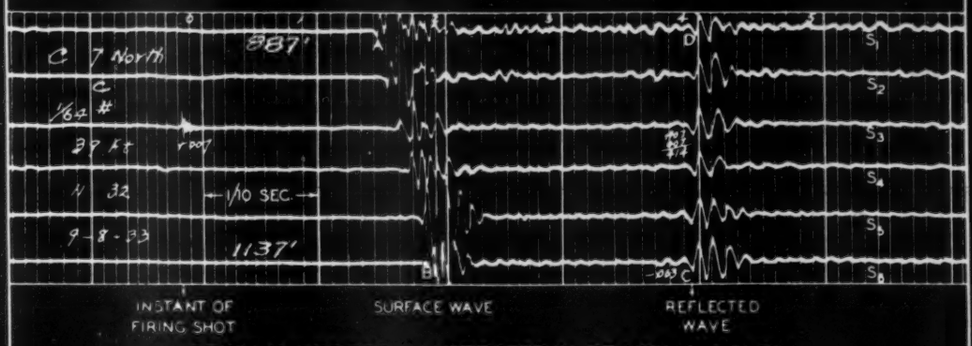
Rice County

Operations in Rice County principally were at routine stage, only two wells being completed during the week. One of these was a large producer in the rapidly growing Hauschild pool. McPherson Drilling Co. and others No. 1 Yaple, SW SE SE section 10-21-7w, made potential of 6,186 bbls. of oil, based on a six-hour flow test. Production was from Chat, topped at 3,364 feet. Total depth was 3,380 feet.

The other Rice County completion was in the Silica pool. Mid-Continent Petroleum Corp. No. 4 Risse, NE SE NE section 6-20-10w, had Siliceous lime at 3,295-3,302 feet, total depth, was acidized and made potential of 2,156 bbls.

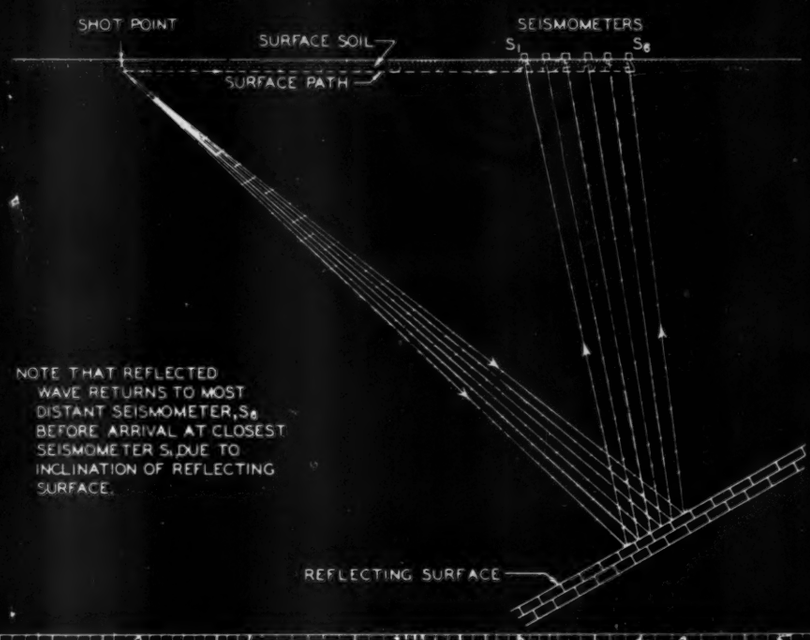
Twelve new tests, including four in the Hauschild area, were started in Rice County, as follows: Garden Brothers No. 1 Hauschild, NW NE NE section 15-21-7w, cellar; same operators' No. 2 Hauschild, SE SW SE section 10-21-7w, rigging up rotary; Douglas Oil & Gas Co. No. 3 Hauschild, SE NE NW section 15-21-

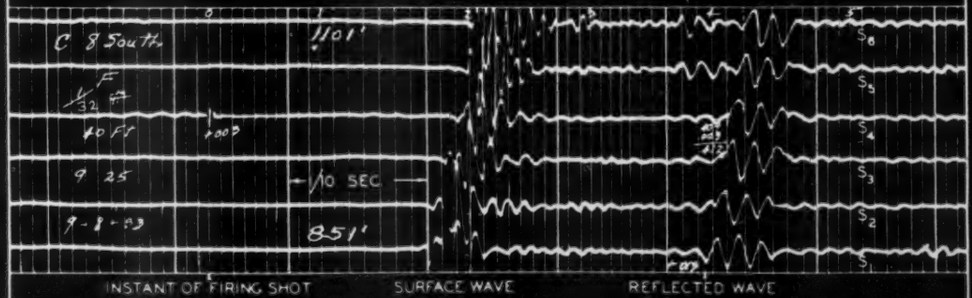
REFLECTION SEISMOGRAPH METHOD FOR DETERMINING DIRECTION OF INCLINATION IN BURIED STRATA



SEISMIC RECORD ILLUSTRATED IN DRAWING BELOW

SHOT DOWN DIP FROM SEISMOMETERS


SHOT POINT
SURFACE SOIL
SURFACE PATH
SEISMOMETERS
S1
S6
NOTE THAT REFLECTED WAVE RETURNS TO MOST DISTANT SEISMOMETER, S6 BEFORE ARRIVAL AT CLOSEST SEISMOMETER S1 DUE TO INCLINATION OF REFLECTING SURFACE.
REFLECTING SURFACE



SEISMOMETERS IN SAME POSITION AS ABOVE ILLUSTRATION BUT WITH SHOT UP DIP FROM SEISMOMETERS

NOTE THAT REFLECTION ARRIVES FIRST AT SEISMOMETER CLOSEST TO SHOT

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JENSEN BROTHERS MANUFACTURING COMPANY

Coffeyville, Kansas, U.S.A.

7w, location; E. J. Shaffer and others No. 3 Hauschild, SE NW NE section 15-21-7w, location; W. S. Field and others No. 1 Crawford, SE SE SW section 21-19-6w, wildcat, cellar; Sinclair Prairie Oil Co. No. 1 Willard, NE NE SW section 6-19-9w, building rig; Torry & Feaster No. 1 Rose, NW NW SE section 32-19-9w, cellar; C. B. Davis and others No. 11 Dueser, C W half E half SW section 32-19-10w, location; Mid-Continent Petroleum Corp. No. 1 Wood, NE cor. section 4-20-10w, cellar; Gulf Oil Corp. No. 1 Minor, NW SW NW section 5-20-10w, rotary rig; Mid-Continent Petroleum Corp. No. 5 Risse, SE NE NE section 6-20-10w, rotary rig; Atlantic Oil Producing Co. No. 1 Scott, NE SW SE section 20-20-10w, location.

C. E. Skiles and others No. 2 Edwards, SW NW NE section 3-18-8w, made potential of 276 bbls. of oil, with 75 bbls. of water in 24 hours at total depth of 3,278 feet. It cemented 6-inch casing at 3,221 feet and was waiting. Continental Oil Co. and Empire Oil & Refining Co. No. 3 Nickel, SE SW SW section 13-18-8w, had Siliceous lime at 3,217 feet; total depth, 3,230 feet; plugged back to 3,227 feet and swabbed 148 bbls. of oil and 4 bbls. of water in five hours. Simpson & Noble and Stanolind Oil & Gas Co. No. 1 Bowman, SW SW NW section 22-19-10w, plugged back from 3,305 feet, total depth, to 3,297 feet, was acidized and made potential 50 bbls. of oil and 450 bbls. of water in 24 hours, but had not been completed. This wildcat is northeast of the Silica pool. C. B. Davis and others No. 10 Dueser, SW SE SW section 31-19-10w, total depth 3,286 feet, was acidized and pumped 785 bbls. of oil in 24 hours. Gulf Oil Corp. No. 4 Dick, NE NE SW section 15-20-9w, topped Siliceous at 3,220 feet, total depth 3,236 feet, and produced 560 bbls. of oil and 140 bbls. of water in 24 hours.

Ellis County

Phillips Petroleum Co. completed a large producer in the Bemis area of Ellis County at No. 1 Bemis, NE SE NE section 21-11-17w. It pumped and flowed 2,841 bbls. of oil in 24 hours, down 29 minutes. Anhydrite was topped at 1,081 feet; Siliceous lime, 3,368 feet; total depth, 3,382 feet. It had best pay at 3,376-81 feet.

In the Ruder area, Tom Palmer and Storm King Oil Co. No. 1 Fritz Ruder, SW SW NW section 9-15-18w, made potential of 1,122 bbls. in 24 hours after acidizing. It topped anhydrite at 1,115 feet; Siliceous, 3,560 feet, total depth, 3,572 feet. Same operators' No. 6 Ruder, NE NW NE section 17-15-18w, topped anhydrite at 1,119 feet; Siliceous, 3,580 feet; total depth, 3,592 feet. After acid treatment, it made potential of 808 bbls. of oil, with salt water.

Two new tests were started in Ellis County, as follows: Uscan Oil Co. No. 4 Bemis, NE NW NE section 21-11-17w, rigging up rotary; Wolf Creek Oil Co. and others No. 1 Staab, NW NW SE section 19-12-17w, moving in material.

Reno County

Three new oil producers were Reno County's contribution to the weekly Kansas completions. Shell Petroleum Corp. No. 2 S. Collins, SW NW SW section 16-24-4w, in the Burrton area, was acidized and made potential of 1,239 bbls. of oil, with 25 bbls. of water. Production was from Chat, topped at 3,311 feet; total depth, 3,386 feet. Deal Oil & Gas Co. and others No. 5 McElwain, NE SE SE section 34-23-4w, topped Chat at 3,256 feet; Hunton lime, 3,580 feet; had a hole full of water at 3,593 feet and plugged back to 3,360 feet. It was shot with perforation gun at 3,330-60 feet and swabbed 25 bbls. of oil with much water. It was acidized and made potential of 408 bbls. of oil, with 100 bbls. of water.

In the Hilger area, Magnolia Petroleum Co. No. 2 Rodgers, SE SW SW section 9-26-4w, had Viola lime at 4,041-46 feet, total depth, made potential of 557 bbls. of oil before acidizing, and 930 bbls. of oil after acidizing. Top of Chat was 3,616 feet; Misener, 4,000 feet.

The following new work was started in Reno County: Olson Drilling Co. No. 1 Krehbiel "C," C S half S half NW section 26-23-4w, location; Shell Petroleum Corp. No. 2 Mardis, C NW NW section 10-24-4w, rigging up rotary; Derby Oil Co. No. 5 Seedle, C N half N half SW section 17-24-4w, rigging up rotary; same operator's No. 2 Mount, NW NE NE section 20-24-4w, cellar; same operator's No. 2 Beltz, SW SE SW section 4-26-4w, rigging up rotary; Tide Water Oil Co. No. 2 Burrton State Bank, C S half S half NW section 17-24-4w, rigging up rotary; Magnolia Petroleum Co. No. 3 Clyde Harris, SE NW SW section 9-26-4w, building rig; Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 3 Hilger "A," NE NW NW section 16-26-4w, location.

WARD A. McGINNIS
Independent producer and drilling contractor of Eureka, Kans.

Siegrist & Miller No. 1 Love, C W half SW SE section 13-24-8w, total depth 3,551 feet, was acidized with 6,000 gallons and made potential of 443 bbls. of oil, with a showing of water, in 24 hours. Sinclair Prairie Oil Co. No. 1 Showalter, SE cor. section 8-24-4w, topped Chat at 3,290 feet, was bottomed at 3,390 feet and flowed 25 bbls. of oil per day. Texas Co. No. 7 S. Collins, NW cor. section 16-24-4w, total depth 3,380 feet, flowed 108 bbls. of oil in 24 hours, then was acidized but had not been tested.

Barton County

Two failures were reported in Barton County, where operations largely were routine. Yarnell & Spencer No. 1 McLean, SW SW SE section 24-17-11w, had a hole full of water and was dry and abandoned at 3,348-53 feet, total depth. Top of anhydrite was 611 feet; Kansas City, 2,990 feet; Siliceous, 3,334 feet. Bradley Oil Co. No. 1 Scheufler, NW NE SW section 16-20-11w, topped Siliceous lime at 3,304 feet, drilled 20 feet deeper with no commercial production showing and was dry and abandoned.

One new test was reported in Barton County. Atlantic Oil Producing Co. No. 1 Asher, C NE NW section 31-20-13w, was a cellar.

Sinclair Prairie Oil Co. No. 1 A. Isern, SE NE SW section 25-19-11w, topped Siliceous lime at 3,298 feet and had 2,700 feet of oil in the hole at 3,307 feet. It pumped 441 bbls. of oil in 24 hours at 3,311 feet, total depth. Texas Co. No. 1 McGreevy, C SW SE section 30-20-13w, had first oil at 3,269-72 feet and swabbed and flowed 50 bbls. of oil in 24 hours, with an estimated 2,000,000 feet of gas.

McPherson County

Continental Oil Co. and others No. 2 Hetzke, NE NE NW section 29-21-1w, in the Graber area, McPherson County, was acidized with 4,000 gallons and made potential of 1,629 bbls. of oil. It topped Chat at 2,914 feet; Hunton lime, the producing formation, at 3,291 feet; total depth, 3,311 feet. It swabbed 127 bbls. in two hours before treatment.

Empire Oil & Refining Co. No. 1 Cunningham, SE cor. section 26-18-1w, wildcat northeast of the Ritz-Canton field, was acidized with 3,000 gallons, flowed 252 bbls. in 12 hours, and later made potential of 830 bbls. in 24 hours, completed. Top of Kansas City lime was 2,232 feet; Chat, 2,803½ feet; total depth, 2,832½ feet. Production was from Chat.

T. C. Johnson and others No. 1 A. R. Johnson, SW SW NW section 33-17-1w, wildcat, had water in Siliceous lime at 3,323-32 feet, total depth, and was dry and abandoned. Kansas City lime was topped at 2,110 feet and water filled the hole; top of Chat was 2,683 feet; Hunton, 2,990-3,100 feet; Viola, 3,173-3,255 feet; Simpson, 3,270 feet.

New work in McPherson County: Empire Oil & Refining Co. No. 1 Keefer "A," SW cor. section 25-18-1w; Marathon Oil Co. No. 5 Decker, NE cor. section 20-21-1w, location; Continental Oil Co. and others No. 4 C. C. Graber, SE SE NW section 32-21-1w, building rotary rig.

Sumner County

Olson Drilling Co. and Shell Petroleum Corp. No. 1 Community, SE NW NE section 14-32-2, in the Oxford area, Sumner County, was an old well deepened. It topped Dolomite at 2,939 feet; total depth, 2,944 feet. It was acidized with 2,000 gallons and made potential of 163 bbls. of oil, with 160 bbls. of water, recompleted. W. K. Mann and others No. 1 Herrick, NW SW SE section 25-31-2, in the Churchill area, an old well deepened from 1,879 feet, topped Kansas City lime at 2,151 feet; total depth, 2,218 feet. It swabbed 25 bbls. in 18 hours, then was acidized and pumped 160 bbls. of oil in 24 hours, recompleted.

The only new test in Sumner County was Pryor & Lockhart No. 1 McCowen, NE NE SW section 18-32-1w, wildcat. It was building rotary rig.

Butler County

Ellis and others No. 1-A Pettit, SE SE NW section 21-28-6, Butler County wildcat, topped Kansas City lime at 2,125 feet; Wilcox sand, 3,150 feet; Siliceous lime, 3,160-63 feet, total depth. After acidizing, it pumped 53 bbls. of oil and an estimated 600 bbls. of water in 24 hours, completed.

It is east of the Pettit pool. McGinnis and others No. 1 Hinnen, NE NE SW section 18-24-4, wildcat north of the Potwin area, was dry and abandoned with a hole full of water at 2,550 feet, total depth. Top of Kansas City was 2,115 feet; Mississippi, 2,540 feet.

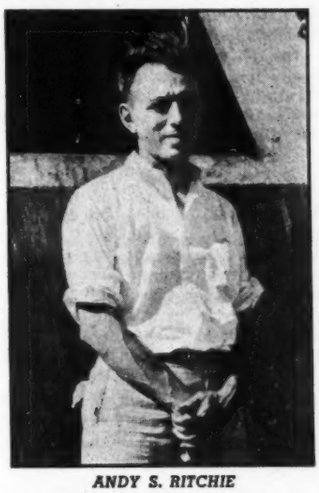
The only new test in Butler County was W. P. Hildebrandt and others No. 1 Farab, SW SW SE section 5-29-6, wildcat east of the Fox-Bush pool, cellar.

Harvey County

Phillips Petroleum Co. No. 1 Kaufman, NE NE NW section 2-22-2w, Harvey County wildcat, had a hole full of water at 3,439-46 feet and was dry and abandoned at 3,453 feet, total depth. Top of Kansas City was 2,360 feet; Chat, 2,990 feet; Misener, 3,424 feet; Hunton lime, 3,428 feet.

Ellsworth County

Roy Ramsey and others No. 1 Gregory, SW SW SE section 25-16-9w, wildcat north of the Lorraine field in Ellsworth County, was dry and abandoned with a hole full of water at 3,318-23 feet, total depth.



ANDY S. RITCHIE
Superintendent, McPherson Drilling Co., Wichita, Kans.

Topeka lime was topped at 2,455 feet; Kansas City, 2,850 feet; Conglomerate, 3,197 feet; Viola, 3,220 feet; Simpson, 3,267 feet; Siliceous, 3,318 feet.

Cowley County

Derby Oil Co. No. 2 David, NW SW NE section 2-31-4, was the only Cowley County completion. It had sand at 2,947 feet; total depth, 2,967 feet. After two shots, it pumped 60 bbls. of oil in 24 hours. It is in the South David area.

Sheridan County

Sheridan County, west of Graham and northwest of Trego Counties, was added to the wildcat territory in Kansas the past week. O. A. Roberts and others No. 1 Corrick, C NW section 34-9-27w, southwest of Hoxie, was moving in material.

Stafford County

Empire Oil & Refining Co. No. 2 Sifers, SE NE SW section 3-21-11w, Stafford County, was a location.

Ness County

A new wildcat test was announced for Ness County. It was Sayre Oil Co. and others No. 1 Ryersee, C NE SE section 34-18-21w, east of Bazine in the eastern part of the county, location.

Trego County

The only new operation reported in Trego County was a wildcat. It was G. M. Piggott, Inc. and others No. 1 Burkett, C SW section 15-11-22w, northeast of Wakeeney, location.

Oklahoma Fields

(Continued from Page 180)

Oil Co. No. 19 Westheimer & Daube, NW cor. section 10-4s-3w, pumped 30 bbls. of oil and 4 bbls. of water in 24 hours and was completed after plugging back to 1,082 feet from 1,135 feet, total depth.

New work reported in Carter County was as follows: C. P. Williams No. 2 Brady, SE SE NE SW section 19-1s-2w, rig; Karchmer & Smith No. 4 Lynn, NW NW SE NE section 31-1s-2w, building rig; Samedan Oil Co. No. 1 Sexton, NW NE SE section 6-2s-2w, tools on location; Cox-Hamon No. 26 Wesley, NW SW SW section 3-4s-3w, location; Texas Co. and others No. 1-B Cathey, SE NE NE section 6-5s-1w, old wildcat, deepening, drilling at 4,205 feet.

Marshall County

One new test was reported in Marshall county. F. W. Merrick, Inc. No. 25 Null, C N half NW NW section 24-5s-5e, was drilling in sand at 494 feet.

Jackson County

Gulf Oil Corp. No. 1 Ellis, NW SW NE section 6-1s-19w, in the Tipton area Jackson County, had initial production of 671 bbls. in 10 hours and was completed at 2,632 feet, total depth. Lime was topped at 2,591 feet. It was acidized with 1,000 gallons. Same operator's No. 3 Byrd, SE NW NW section 14-1n-20w, in the Altus area, had broken shale and Grante Wash at 1,493-1,561 feet; total depth, 1,569 feet, pumped 20 bbls. in 24 hours and was completed. A. H. Jackman No. 1 Fee, SW cor. section 27-1s-24w, wildcat, had a junked hole and was abandoned at 2,685 feet, total depth.

Two new Jackson County operations were reported. G. W. Scheig and others No. 2 Fox, NW cor. section 13-1n-20w, was a machine. Gulf Oil Corp. No. 1 Basher, NE cor. section 14-1n-20w, was a location.

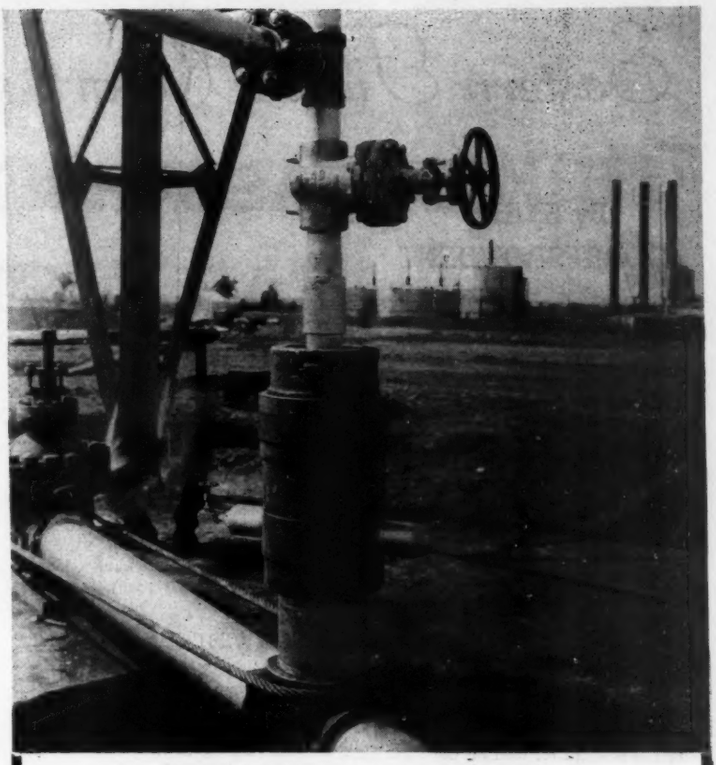
Southwestern Oklahoma

J. C. Davis No. 1-A Anderson, SW SE SW section 23-1s-10w, in the Walters area, Cotton County, produced 2,000,000 fet of gas and was completed in sand at 2,179-84 feet, total depth. Shasta Oil Co. No. 1-A Moore, NW SW SW section 2-2s-10w, Cotton County, was dry and abandoned in water sand at 2,296-2,306 feet.

In Comanche County, Kent Oil Co. No. 1-A Curtis, NE SE SE section 25-2-11w, was dry and abandoned at 746 feet, total depth.

In the Knox area, Grady County, Carter Oil Co. No. 1 Carter-Kerns, SW NE SE section 21-3-5w, had sand at 1,671-85 feet, total depth, and pumped 15 bbls. of oil in 24 hours, completed.

Two new operations were reported in Stephens County, as follows: Raizen Brothers No. 10 Crosbie, NW SW SW section 23-1s-5w, drilling at 580 feet; T. H. McCasland and others No. 1 Hilderbrand, SW SE SE section 1-3s-7w, an old wildcat, moving in tools to deepen.



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Eastern Field Report

By STAFF CORRESPONDENT

GASSERS IN WEST VIRGINIA LEAD EASTERN COMPLETIONS

PITTSBURGH, Pa., July 27.—No wells of unusual interest were completed during the week in the lower eastern fields.

The largest oil producer for the week was in Muskingum County, Ohio. In the NW quarter section 5, Licking Township, H. W. Scott and others completed No. 3 William Myers in Clinton sand at 3,227 feet. It produced 65 bbls. the first day after the shot.

In Athens County, in section 36, Alexander Township, Lewis Farm Oil & Gas Co. completed a 1,000,000-foot gasser on the Gibbs farm in Berea grit at 1,120 feet. In section 31, same township, Robinson and others completed a small oil well on the Charles Mendenhall farm in Berea grit at 1,323 feet. Near Albany, in Fraction 4, Lee Township, the same operator completed a gas well on the Lee Elliott farm in the Macksburg sand at a depth of 500 feet. It gauged 107,800 feet a day.

In Belmont County, SW quarter of section 26, Richland Township, Union Gasoline & Oil Corp. completed No. 5 Albert Smelko in Berea sand at 1,847 feet. It produced 5 bbls. the first day after the shot. In the southeast quarter of this township, the same company completed No. 4 Nick Dyken in Berea sand at 1,981 feet. It is good for 2 bbls. a day. In the N half section 25, same township, Richland Development Association No. 11 John R. Lochary in Second Cow Run sand at 779 feet is a gas well gauging 300,000 feet a day.

In Holmes County, Pure Oil Co. drilled a failure in No. 3 S. S. Troyer farm, Lot 32, Hardy Township, through the Clinton sand to a depth of 3,601 feet.

In Monroe County, Howard Hall and others' test on the W. T. Schmidt farm in section 7, Benton Township, is a 4-bbl. well in Keener sand at 1,622 feet.

In Noble County, Price and Brown drilled No. 3 Frank Prinko, section 17, Noble Township, had a showing of dark oil after shot in sand at 226 feet but is making much water.

In Perry County, E. C. Marshall and others completed a 1-bbl. well, No. 13 E. Newberry farm, section 13, Monroe Township, in the Berea sand at 1,153 feet.

In Washington County, G. T. Gale and others completed No. 3 on the Gale heirs farm, section 27, Newport Township, in First Cow Run sand at 434 feet. It produced 1 bbl. the first day after shot. In Fraction 42, Fairfield Township, Ohio Fuel & Gas Co. completed 104,000-foot gas well on the George W. Varner farm in Maxon sand at 1,196 feet. In Fraction 7, of this township, William Brothers, on the M. F. Goddard farm, drilled through Maxon sand to 1,177 feet. It was a dry hole. Three miles southeast of Bartlett in Fraction 31, Fairfield Township, C. P. Bowman & Co. drilled a dry hole on the Marion Goddard farm through Injun sand to 1,270 feet.

The tools have not yet been recovered in the deep test of the Natural Gas Co. of West Virginia on the Strudthoff farm in section 28, Madison Township, Columbiana County. The top of the Oriskany sand had been reached.

SOUTHWEST PENNSYLVANIA

In Findley Township, Washington County, Pennsylvania, Union Gasoline & Oil Corp. completed No. 5 J. N. Clutter (A. E. Sprowls) farm as a 1-bbl. pumper in the Nineveh Thirty-Foot sand topped at 2,814 feet.

In Amwell Township, Washington County, South Penn Oil Co. is building rig on the J. Q. Zimmerman farm; Union Gasoline & Oil Corp., rig for No. 3 A. O. VanKirk tract (McClenathan farm) and moving in rig materials on the Marion Johnson farm; New Oil & Gas Co., down 710 feet on the L. Brunder farm; Carnegie Natural Gas Co., locations on the Redd and Carrons farms, in South Strabane Township.

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. is down 1,805 feet on the H. R. Post farm and running casing; South Penn Oil Co. drilling at 710 feet on the J. B. Thompson (Piedmont Coal) farm; Furman Nuss & Co. at 1,331 feet on the W. D. Hallam farm; E. H. and J. B. Tague, down 465 feet in No. 14 on the Adaline D. McKennan estate.

In Peters Township, Washington County, R. M. Duden & Co. were drilling at 700 feet on the E. J. Johnston farm. In Morris Township, New Oil & Gas Co. is drilling at 2,955 feet on the H. Sanders farm. In East Findley Township, the Duquesne Gas Co. is drilling at 2,575 feet in No. 3 M. B. Rodgers. In South Strabane Township, Victor Behm and others are down 2,525 feet on the William Paul and Son farm.

In Aleppo Township, Greene County, Cochran & Cochran are drilling No. 5 Riggs on Wagon Road Run. On Pigeon Run in Springhill Township, J. H. McNichols and others are drilling on the J. W. McNichols farm. In Aleppo Township, McCall Drilling Co. is down 3,016 feet in the test on the John L. Chambers farm.

In Richhill Township, Greene County, Carnegie Natural Gas Co. is drilling at 1,090 feet on the W. O. Kincaid farm. In Center Township, this company is down 1,540 feet on the J. W. Milliken farm. In Dunkard Township, Convex Glass Co. is drilling at 1,331 feet on the Leroy McClaran farm.

Equitable Gas Co.'s drilling program has reached the following depths: Whiteley Township—Elizabeth Johnson, 2,282 feet; George Hennen, 1,785 feet. Perry Township—Blanche Haines, 330 feet; Morgan Wade, 1,100 feet. Wayne Township—M. Brant, 2,229 feet. Jackson Township—Hiram White, 3,005 feet. Monongahela Township — Mestrazat farm, 1,776 feet; Mundell farm, fishing 1,375 feet.

In Morris Township, Greene County, Manufacturers Light & Heat Co. is shut down testing the casing at 2,045 feet in the test on the Anna Wolf farm.

Deep Tests

In Mount Pleasant Township, Washington County, Norwood Johnson and others on the James McBurney farm is drilling below 5,600 feet.

On Chestnut Ridge in South Union Township, Fayette County, William Snee and others are down 6,500 feet on the Summit Hotel property.

WEST VIRGINIA

No new oil production was completed in West Virginia during the week. In DeKalb district, Gilmer County, A. E. Ellis and others shot No. 4 Ware and Webster and increased production to 60 bbls. a day.

In Boone County, Owens Illinois Glass Co. completed No. 27 Peytonia Coal Land Co. tract in Sherman district at 2,755 feet as a gas well gauging 281,000 feet a day. The Big Lime was at 2,043-2,238 feet with gas topped at 2,185 feet. In Scott district, this company completed No. 3 Mamie Ballard and others at 1,983 feet. It gauges 77,000 feet a day from the Berea sand at 1,932-43 feet.

In Braxton County, Pittsburgh & West Virginia Gas Co. completed a second test on the H. F. Bender farm in Otter district in the Big Injun sand at a depth of 1,844 feet. It is a gas well gauging 124,730 feet a day.

In Cabell County, Adkins and McComas completed a fair gas well in the second test on the Caldwell heirs farm in McComas district. Top of the Big Injun sand was at 1,595 feet with gas at 1,596 feet to the bottom. It gauges 2,400,000 feet a day.

In Gilmer County, Leonard Cain and others on the A. L. McClain farm in Center district, have a 300,000-foot gas well in Maxon sand at 1,503 feet. In Troy district, Massey and Jarvis on the Westie Ward farm completed a 260,000-foot gasser in Salt sand, total depth 1,135 feet.

In Kanawha County, the Columbian Carbon Co. completed the deep test on the Elkland Improvement Co.'s tract (Barlow farm) as a gas well in the shale after it failed in the Oriskany sand. It is good for 600,000 feet a day at 3,300 feet.

In Lincoln County, R. H. Adkins and others completed deepening No. 1 Henry Huffman in Carroll district at 2,245 feet. Berea sand at 2,210-30 feet yielded 112,000 feet a day. In Sheridan district, Huntington Development Co. No. 48 Herman Moore gauged 68,000 feet per day at a total depth of 2,508 feet. Berea sand lay at 2,351-66 feet.

In Ritchie County, A. R. Leatherman and others completed a 284,000-foot gas well on the McMullen farm in Clay district in Squaw sand at 2,150 feet. In Grant district, H. N. Rinehart drilled No. 9 on his own farm through the Big Injun sand to 1,805 feet and it was a dry hole.

In Wayne County, V. L. Lusher completed a second test on his own farm in Union district in Brown shale at 2,630-3,469 feet. It gauged 630,000 feet of gas per day.

New Work

In Cabell County, Kentucky-West Virginia Gas Co. has started drilling on the A. D. Bledsoe No. 2 tract in McComas district, and is rigging up on the Nando Johnson farm and moving in tools on the Julia McComas farm. Ruby Petry is spudding on the F. F. Cottle farm and Merritts Creek Gas Co. is spudding on the Huntington Orchards Co. lease.

In Doddridge County, Pittsburgh & West Virginia Gas Co. has started drilling on the J. N. Czigans farm, Southwest district.

In Harrison County, Hope Construction & Refining Co. has a rig up for No. 3 Landora Harbert in Eagle district; the Lumberport and Shinnston Gas Co. drilling on the D. R. Rogers farm.

In Lincoln County, Owens Illinois Glass Co. is moving in for a test on the W. M. Adkins farm, on the Conley branch.

In Pleasants County, Dinsmoor & Co. have started drilling on the Jonathan Allison farm in McKim district. In Lafayette district, W. J. McCullough is rigged up on the Robert Wilson farm.

In Ritchie County, King Knob Oil Co. has started drilling No. 4 Lena Andrews.

Canadian Production

OTTAWA, Ontario, July 25.—Crude production from all Canadian fields in April amounted to 107,748 bbls., according to an official report just issued. This compared with 117,824 bbls. in March and 113,685 bbls. in April, 1935. Production for the four months of 1936 was 454,731 bbls. against 470,421 bbls. in the same period last year.

New Brunswick production dropped from 1,260 bbls. in March to 806 bbls. in April, and Ontario production from 14,707 to 12,712 bbls. Alberta production was down from 101,857 to 94,230 bbls.

North Louisiana, Arkansas

RODESSA FIELD IS EXTENDED BY BLACKWELL COMPLETION

By MITCHELL TUCKER

SHREVEPORT, La., July 27.—Eight oil wells and one distillate well at Rodessa constituted the completions for the week, 3 in Texas and 6 in Louisiana. Sixteen new locations were begun, 10 in Texas and 6 in Louisiana. An important extension was made in the northeastern edge of the field, while outpost wells on the west edge in Cass County, Texas, continued to test. The third well was completed in the Permian lime at Snow Hill, Ouachita County, Arkansas, as a gas-distillate producer. Sufficient tests have now been made at Snow Hill to discount the early potential predictions for the field.

For several months operators have felt that the eastern edge of the Rodessa pool was defined roughly by the completion of a gas-distillate well in Lion Oil Refining Co. No. 1 Wynn. However, the completion of Blackwell Oil & Gas Co. No. 2 Neugent, NW NE SE section 8-23-15, as a 22-bbl. an hour oil well changes the picture somewhat. The significant point about the Neugent well is that it is obtaining its production from the upper portion of the Hill zone (upper-permost member of Glen Rose), which throughout all other portions of the Rodessa field is productive of gas only. It now is thought that the Lion-Wynn well was improperly cased so as to shut off the upper saturation. As a consequence, geologists are changing their contour maps so that dipping lines parallel the fault to the south. Formerly accepted contours at the eastern end of Rodessa bent sharply to the fault in the vicinity of section 17-23-15, or about 1 mile southwest of the Lion gas-distillate well.

Permit has been requested by W. J. Anson to drill in section 14-23-15, which is about 4 miles farther to the east.

Preparations are being made for additional extension tests here, and active leasing is evident in all directions around and beyond the town of Ida. The Neugent extension well is only 1¼ miles from Miller County, Arkansas, and predictions again are made that Rodessa will graduate from a bistate to a tristate pool.

Interfering with a possible uniform spacing pattern in the eastern extension, the Caddo Parish school board assigned to J. B. Collins a lease on a two-acre tract in section 8-23-15, which provides for the beginning of a well within 30 days.

Western Extensions to Rodessa

Proving increased oil saturation down the structural dip from Cass County's westernmost extension well, American Liberty Oil Co. No. 1 Rambo, Showers & Moncrief completed their No. 1 Stalcup, located 1 mile north and down dip from the Rambo well, as an 18-bbl. an hour producer.

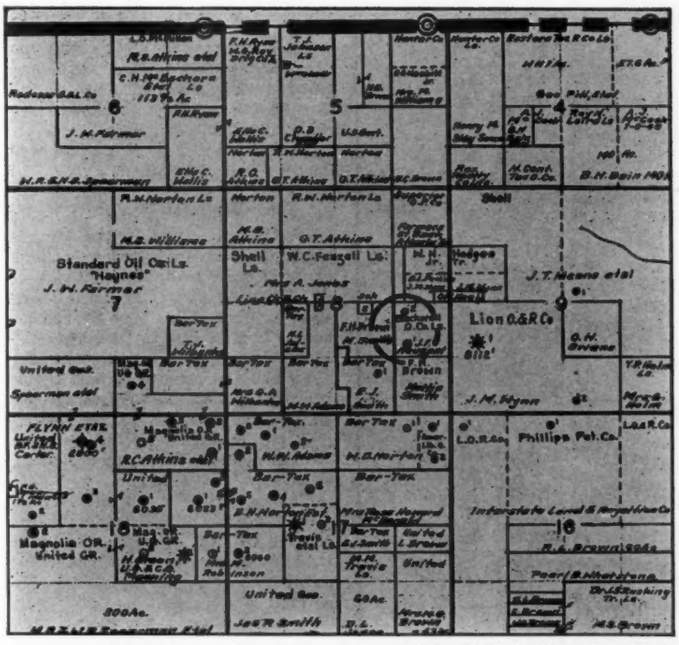
The well that may possibly extend Cass County production another 1¼ miles to the west, Marathon Oil Co. No. 1 Willis, in the S.F.&I.W. Survey No. 1,263, is now drilling out cement plug at 5,989 feet, and is to be tested soon.

American Liberty Oil Co. No. 1 G. Stephens, SW corner of J. Garsner Survey, 2½ miles north and west from nearest production in Cass County, is looking promising as the red beds were topped at 3,470 feet. This is running about 50 feet lower than other high gas-oil ratio wells, and it is hoped that greater oil production will be found down the structure at this point. It is thought by some that the presence of another lateral fault is indicated here.

After several postponements, it now is expected that all proration and conservation matters pertaining to the Texas side of the Rodessa field will be threshed out at the Railroad Commission hearing to be held in Jefferson, Tex., August 5. Previous delays have been caused by the inability or unwillingness of Louisiana conservation officials to attend. They again have been invited to appear at the Jefferson hearing, but it is planned to consider the matter thoroughly at this time whether Louisiana officials accept or not.

Water intrusion in the Rodessa field is not being confined to the low side of the structure, but is becoming more evident at higher subsea points. Recent core examinations have indicated water saturated sections between other distinct oil-bearing sections. Certainly no evidence of a water drive from the low side has been observed. All these facts seem to bear out early predictions that water appearing at Rodessa is trapped by inner faulting rather than being from an extraneous source. Tests in June revealed that 26 Rodessa wells were showing salt water, varying from 55 to 0.2 per cent. Recent tests in July showed 40 wells making water, varying from 66 to 0.2 per cent.

Contrary to earlier reports, recent bottom-hole pressure surveys are pointing to the possible formation of a gas cap in the most densely drilled portion of Rodessa, section 14-23-16. It has been reported that the pressures have declined from an initial of 2,600 pounds to about 1,800 pounds. In this section, which now has 67 wells, the majority of wells have been drilled on a 10-acre spacing pattern. On the other hand, a large portion of all Rodessa production has been obtained from this portion of the field, and a recovery per pound drop in pressure may not be entirely unfavorable to section 14. The possibility of some drainage to the low-pressure area is recognized. A recent study of porosity and permeabilities from over 1,000 Rodessa cores has been made, indicating an average porosity of 18 per cent, and a permeability of 120 millidarcys.



—Walter E. Wylie, Maps, Shreveport.

Eastern extension area in Rodessa field near Ida, La., and one and one-quarter miles from the Miller County, Arkansas, line

Rodessa Completions

Blackwell Oil & Gas Co. No. 2 Neugent, NW NE SE section 8-23-15, flowed 22 bbls. an hour initially through one-half inch tubing choke from a total depth of 6,090 feet.

Magnolia No. 4 Foscue Unit, SE cor. section 20-23-16, was completed at a depth of 5,991 feet for an initial flow of 15 bbls. an hour through a three-sixteenths inch choke.

Regent Oil Corp. No. 1 Tyson, NW SE SW section 24-23-16, was completed as a gas-distillate well at a depth of 6,005 feet. The well tested 6 bbls. of distillate an hour with 20,000,000 feet of gas, through three-eighths inch tubing choke.

Standard Oil Co. No. 7 Otwell, SW SE SE section 15-23-16, flowed 90 bbls. an hour through open tubing, total depth 5,998 feet. Gas-oil ratio was 774 to 1.

Standard Oil Co. No. 8 Otwell, NW SE SE section 15-23-16, flowed 108 bbls. an hour through open tubing, total depth 5,995 feet. Gas-oil ratio was 410 to 1.

United Gas No. 23 Rodessa Oil & Land Co., SE NW NW section 23-23-16, flowed 26 bbls. an hour through one-quarter inch tubing choke, total depth 6,000 feet.

Magnolia No. 1 W. M. Hall, Wilson Robinson Survey, Cass County, flowed 50 bbls. an hour through one-half inch tubing choke, total depth 6,114 feet.

Showers & Moncrief No. 1 Stallcup, J. Davenport Survey, flowed 18 bbls. an hour through one-quarter inch tubing choke, total depth 6,006 feet.

United Production Corp. No. 2 Tyson Unit, J. H. Rives Survey, flowed 16 bbls. an hour through one-quarter inch tubing choke, total depth 6,050 feet.

Bossier Parish

Triangle Drilling Co. No. 1-E Skannal, in the Sligo gas field, section 23-17-12, tested 63,190,600 feet of gas before it was mudded and brought under control. This gas is coming from the oolitic lime of the Glen Rose immediately underlying the massive anhydrite, total depth 4,388 feet. Gas production has been obtained from this same horizon for several years, but never in such quantities.

Two new completions were recorded in the shallow Bellevue pool by Premier Investment Co., section 14-19-11, one gauging 50 bbls. a day on the pump, and the other 25 bbls. This same company has staked another location in section 14.

United Gas Public Service Co. No. 1-D Skannal, section 22-17-12, drilled as an oil test on the southwest flank of the Sligo field, tested salt water only at 5,315 feet, and has now been

plugged back to the casing seat at 5,165 feet. The well is being retested at this depth.

Caddo Parish

In addition to the wide activity at Rodessa in Caddo Parish, five important deep tests are being closely watched in the southern portion.

Falcon Oil Co. No. 1 J. E. Cupples, NE section 24-16-13, is being drilled for a 6,000-foot Glen Rose test about 10 miles southeast of Shreveport. Surface casing is being set here.

Gulf Refining Co. No. 1 E. P. Hatcher, SW SE section 11-17-15, a thorough test of the Cross Lake region, is rigging up.

Prairie River Syndicate No. 1 Hutchinson, SW NW section 15-15-12, looked promising when it topped the anhydrite stringer at 3,983 feet. Drilling is continuing at 4,300 feet.

Shreveport Oil Corp. No. 1-D Muslow, SE quarter section 5-20-15, being drilled for a deep test in the center of the old Caddo field, is below 4,400 feet.

United Gas Co. No. 1-A Wheeler, Blanchard area, section 16-18-16, has drilled to 5,911 feet without favorable showings. The contract depth here is 6,000 feet.

Claiborne Parish

United Gas Public Service Co. continues to make history in the drilling of its No. 2 Durrett, SW quarter section 31-20-15, which is now below 8,000 feet. This is planned as a test of the upper Paleozoics.

De Soto Parish

Union Petroleum Co. of Shreveport is drilling at 2,700 feet in its No. 2 Rascoe, NW SE section 3-10-13. This well is running slightly higher than the No. 1 Wolf in the Benson pool, which to date has produced over 80,000 bbls. of oil from the Fredericksburg, upper member of Lower Cretaceous. Deep tests of the Glen Rose are contemplated for this area.

Jackson Parish

The drilling obligation incident to the assembly of 12,000 acres for the Seaboard Oil Corp. in Townships 14 and 15, Ranges 3 and 4, has been farmed out for early drilling. Subsequent to acquiring the leases, Seaboard thoroughly mapped the area with seismograph, and a rather low relief high was reported.

Morehouse Parish

Material is being moved in for the drilling of J. B. Collins and others No. 1 E. M. Clark, SE NE section 10-20-7e, which is to be a 6,000-foot test.

Phillips Petroleum Co. recently completed shooting Township 23, Range 5, and Township 19, Range 7. The Tide Water crew has completed exploration in Township 22, Range 8. Independent brokers are taking all available acreage in Township 23, Range 6. Gulf continues to buy in Townships 19 and 20, Ranges 6 and 7, at $1 an acre. Its holdings now amount to about 5,000 acres. United Gas, Arkansas-Louisiana, the Hunter Co., Superior, and Eastern Texas Production Co. are seeking protection here.

Four routine completions in the Monroe gas field were made, totaling 9,500,000 feet a day with rock pressures ranging from 880 to 1,010 pounds.

Natchitoches Parish

After losing the hole in No. 1 DeBlieux at 2,860 feet, Union Petroleum Co. has begun the drilling of No. 2 DeBlieux in section 83-10-7. The drilling of this second hole was prompted by gas and oil showings in the No. 1.

Rapides Parish

Abandonment of Rapides Oil Co. No. 1 State-Bayou Boeuf has been ordered after a second drillstem test from 5,705 to 5,715 feet showed salt water, with slight coloration of oil. This was a 1-mile north outpost well in the Cheneyville area.

Webster Parish

W. D. Ambrose of Dallas, Tex., is reported to have received a farm-out contract from two additional owners at Sibley, bringing the total short-term drilling obligations he has assumed in this area to five. The seismograph indicated a large closure here, and the acreage farmed out is believed by some to be good for gas only, while operators expect that as soon as the dip of the beds is more clearly defined, large oil accumulations may be found.

Haynes Brothers, of Shreveport, are reported to be making final plans for the drilling of a well on their Braklin lease in section 5-17-9, a few miles southwest of the Sibley discovery.

Production by Pool

Following was the average daily production by pool in North Louisiana and Arkansas for the week ending July 25:

NORTH LOUISIANA

Field—	Dly. Av.
Bellevue	800
Caddo light	4,160
Caddo heavy	2,415
Converse	900
Cotton Valley	320
DeSoto and Red River	1,465
Elm Grove	420
Haynesville	3,555
Holly	130
Homer	2,610
Pleasant Hill	160
Rodessa	61,150
Sarepta-Carterville	510
Urania	2,840
Zwolle	1,150
Total	82,575

SOUTH ARKANSAS

Champagnolle	2,800
El Dorado	3,150
Lisbon	295
Miller County	850
Nevada	365
Smackover light	2,210
Smackover heavy	18,115
Stephens	595
Urbana	1,845
Total	29,725

Texas side of Rodessa field—5,900 bbls. daily.

ARKANSAS

Bradley County

Attention centers upon Phillips Petroleum Co.'s important Paleozoic test in section 12-17-11, No. 1 C. H. Murphy and others, as coring continues in the red beds of the Travis Peak around 4,800 feet. Top of the lime was expected within the next 100 feet. This test is being drilled as a result of attractive seismograph mapping.

Columbia County

Geophysical exploration has indicated a fault line running northwest-southeast through Township 19, Range 19, with a large closure, and the Eastern Texas Petroleum Co., sponsor of the survey, is expected to begin a 6,000-foot test immediately.

Ouachita County

What once was thought to be a major oil discovery, deep-lime production at Snow Hill, on the flanks of the Smackover pool, now appears to be incapable of assuming important proportions. Two gas-distillate producers have been completed, and the third one was recorded in the past week. Phillips Petroleum Co. completed its No. 1 L. Harriss, SE SW NE section 28-15-15, flowing 5,000,000 feet of gas and 20 bbls. of white gasoline in 18 hours through 31/64-inch tubing choke. Tubing pressure was 1,100 pounds, casing pressure 1,200 pounds, total depth 4,807 feet. Four other wells are in the process of testing, while work at seven tentative locations is being held up pending their outcome.

Geologists now are supplied with ample correlative and analytical data to permit tentative conclusions. Three possible hypostases have been advanced for the failure of the Permian lime at Snow Hill to contain large oil accumulation. At first the absence of effective porosity or permeability, a common characteristic in lime formations, was suggested as the reason for poor productivity. Lack of interconnecting pore space has been thought to prevent the separation of gas, oil, and salt water in the horizon, and as a result it has been impossible to distinguish between the three zones, or produce the wells in the most advantageous manner. The second suggested opinion is that a rather open fault extends from the deep lime up into the shallower producing beds at Smackover, and from this depth much of the lime oil already has been produced. As a third possibility it has been mentioned that the limestone may have been in a truncated position before erosion, and much of the saturation was allowed to escape.

The future of Permian possibilities in southern Arkansas and certain portions of northern Louisiana is not being wholly discounted, however. Lime highs, which have proven to be capable of detection by the seismograph, no doubt will continue to be tested by the trial-and-error method, and where the effective porosity and saturation are ample, highly productive lime structures are not improbable. Stratigraphic traps may possibly be found by this same trial-and-error method. In fact, it now appears

(Continued on Page 202)

O. G. HOUSER

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Southwest Texas District

By GEORGE WEBER

ARANSAS COUNTY WILDCAT LOOKS LIKE A POOL OPENER

SAN ANTONIO, Tex., July 27.—The results of an active week of drilling drew attention of operators to virtually all parts of Southwest Texas as new discoveries, failures and field extensions occurred at widespread points. Aransas County was assured of its first oil production, with the increased oil flow in Buckingham Oil Co. No. 1 McCampbell. More gas areas were opened in Bee and Starr Counties, and field extensions were indicated or completed for Seven Sisters, Lopez, Sinton and Bentonville. Failures defined North Pettus and Saxet Heights fields. Generally declining activity in the Laredo district, with Seven Sisters, Lopez and Haynes fields as exceptions, were shown in fewer completions in that area for the week. Lower Coastal drilling, centering around Nueces and San Patricio Counties was sustained and in places, increased.

Aransas County

Oil production in the new Aransas County producer, Buckingham Oil Co. No. 1 McCampbell, was augmented, to reach an estimated 100 bbls. per day at the latest report. The test is producing from sand at 6,554-60 feet and working pressure on the tubing is maintained at 2,225 pounds. The well was brought in making mostly gas with a spray of distillate, but results of the week's flowing enhance the outlook for an Aransas County oil field. Offsetting this test, just across the county line in San Patricio County, Atlantic Oil Production Co. No. 1 Maryland Trust Co. is drilling in a sidetracked hole after plugging back from a drill stem twisted off at 5,350 feet.

A north extension of nearly a half mile is indicated by the showing of saturated sand in Parr Oil Co. No. 1 Sling. The north outpost test, located in the northwest corner of Survey 118, cored saturation at 2,477 to 2,485 feet and has set casing for an early production test.

Defined on Northeast

The failure of Pettus Oil & Refining Co. No. 1 Hickle, one-half mile northeast of production in the North Pettus field, tends to define the limit of that field. Drilling in this area, which has been fairly active in recent weeks, resulted in completion of two more producers by Magnolia Petroleum Co. and Jane Oil Co.

To the south, in Bee County, a new gas area was opened by completion of H. A. Pressey No. 1 Hicks, located 4½ miles south of Normanna. Other gas developments occurred in the Lower Rio Grande Valley. There, in Starr County, Ed Leach No. 1 Dana estate was showing 400 pounds pressure after perforating at 963-75 feet in a shallow gas sand which has shown up in several tests recently. Most outstanding of the past tests was Weyel No. 1 Wood, which blew out and made gas in heads for weeks before finally being shut in.

Lopez Extended

In Webb County, the Lopez field continued to hold prime interest, as Starr Development Co. (Cox & Harmon) No. 1 Peal, a mile extension northeast, was completed for one of the best producers in the field. The well was reported making as high as 35 bbls. per hour on a half-inch choke. This improves the outlook of the field as one of the most promising in Southwest Texas.

Plymouth Oil Co. has discovered a saturated sand in its No. 2-D Welder, located one-half mile southeast of the Sinton field. The test is being completed in sand at 5,533-41 feet, constituting the opening of a new sand, in addition to the extension of production.

Center of Attention

The center of attention in the valley at present is the Mestanas area of Hidalgo County. There, Gulf States Oil Co. is attempting completion of No. 3 John Engleman. The test was perforated at 6,688-92 feet and was cleaning on a quarter-inch choke with tubing pressure of 800 pounds and casing pressure of 1,500 pounds. The test is making dry gas and some distillate, and no salt water. A new location was announced in that area by McCollum Exploration Co. of Houston, one location west of the Quintana test, abandoned some weeks ago with drill stem stuck.

Wildcat Failures

Wildcatting received setbacks in Duval County during the week, as three tests were abandoned dry. In addition, failures occurred in three of the county's fields: Loma Novia, on the north, Seven Sisters in the central portion and Peters. Field operations further declined in Loma Novia, but the increased activity shown in Seven Sisters and Peters nearly make up for the slump. In all fields of the county, 12 new producers were completed.

The Haynes or Comitas field of Zapata County is receiving an appreciable play, with Gilcrease Oil Co., Mid-Continent Petroleum Corp. and Nordan & Morris as the new operators entering activity of the shallow field. Webb County, outside of Lopez has been very inactive, but the week brought two tests, as Mid-Continent Petroleum Corp rig up on a wildcat in the northwestern section of the county, and Lu-Tex Oil Co. move back on the No. 1 Lone Star in Porcion 12 to deepen it.

The Jackson trend, which usually sees steady but uneventful drilling activity, gained the spotlight this week when saturated sand was cored in C. C. Shumway No. 9 Shiner, McMullen County wildcat. Recovery of 16 feet of sand was reported, but the test will be drilled down. To the east in Live Oak County, Adolf Dovre was again disappointed when No. 1 San Antonio Joint Stock Land Bank, west of Three Rivers, showed salt water at 2,002 feet.

Showing in Deep Test

One of the deepest wildcats in Southwest Texas, California Co. No. 1 Garcia in Brooks County had a show of oil and salt water during the week. The test was started in December, and has been carried to a total depth of 8,023 feet. Plugging back to 3,358-60 feet from this depth recently, operators perforated at 3,020-35 feet and at latest reports the test was making 25 bbls. of fluid per hour, of which about 3 per cent was oil and the remainder salt water.

In the Fault Line zone, two tests commanded mild interest. Both are in Atascosa County. Atascosa Trust No. 1 Domsch is still drilling deeper after repeated reports of oil showings. Helvetia Oil Co. No. 1 Pratt is pulling tubing to drill deeper after encountering shows of oil and gas at 2,249-2,300 feet.

Wildcatting in the Lower Gulf Coast took an upward swing during the week with seven new tests getting under way in Nueces, San Patricio and Jim Wells Counties. Field operations were sustained and increased in some fields, where effect of recent heavy rains is diminishing. A wild gasser in Saxet hindered operations on a few of the drilling rigs of the immediate area. The test, North Star Oil Co. No. 1-G Rand Morgan, was successfully brought under control and killed by M. M. Kinley Co.

Saxet Heights

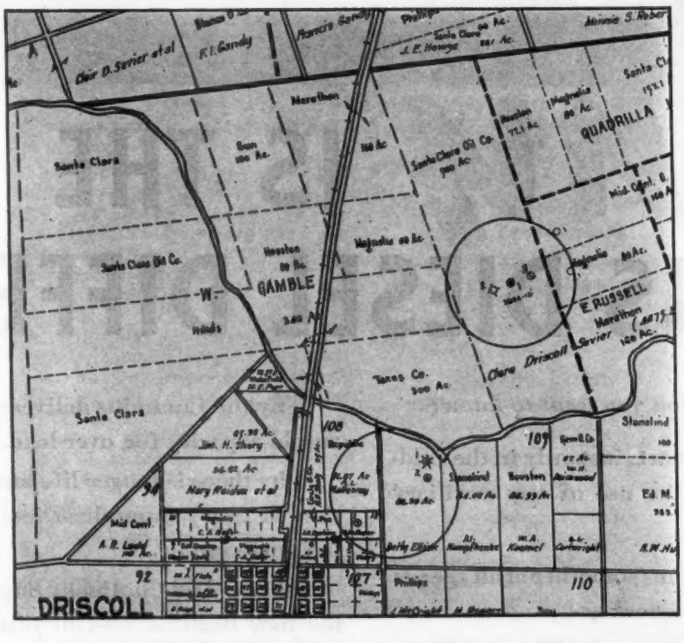
Saxet Heights was defined on the east as Richardson Petroleum Co. No. 1 Burke, a 1,000-foot outpost test, was abandoned at 4,130 feet. This failure is significant in view of the fact that the major development of the field both as to extension and volume of new production has been on the east flank.

Saxet continues to increase its importance as the most active field in Southwest Texas. Three new wells in the 5,800-foot Frio sand were completed, together with one each from the 5,500- and 4,400-foot sands. Several tests are on the deep sand, and other pay horizons of the field, for early completions.

Clara Driscoll Field

The Clara Driscoll field, near the town of Driscoll, is receiving attention again, as tests approach completion, another gets under way and a third is announced. O. W. Killam

(Continued on Page 194)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QUADRILLA
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Texas Co.
Clara Driscoll
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East and East Central Texas

By
L. E. BREDBERG

TALCO'S BEST WELL STARTS OFF AT 82 BBLS. PER HOUR

DALLAS, Tex., July 27.—Two more outpost tests in the Talco field were ordered abandoned this week, one is on the west and the other on the southwest, just as it has been defined along the south edge of the fault and on the east.

L. S. Flannery and others abandoned No. 1 J. L. Hedrick, in the M.E.P.&P. Survey, over a mile to the northwest of the smaller producer of Bateman and others, and 2 miles southwest of the nearest production on the Franklin County side of the Talco pool, at a total depth of 4,365 feet, after logging top of the Paluxy at 4,235 feet, and what appeared as water-bearing sand at 4,341-51 feet. Humble Oil & Refining Co. No. 1 Dawson, north offset to the Hedrick failure, also is appearing as a dry hole as it stands shut down at 4,330 feet after cementing 7-inch casing at 4,212 feet. Elevation is 372 feet. Stroube & Stroube are drilling one about one-quarter of a mile to the west of these two tests, it has but slight chances of making a producer under the existing circumstances.

T. De Grazier and others No. 1 F. M. Bates in the Bates Survey, about midway between the above mentioned Hedrick dry hole and the Bateman producer, was also abandoned. Total depth was 4,343 feet and top of the Paluxy 4,274 feet.

Best Well in Pool

Three producers were completed in the Talco pool this week, one in Franklin County and the others in Titus. No. 1 Lucy Blackburn of the Magnolia Petroleum Co., a west offset to Humble Oil & Refining Co. No. 2 Groves, the most easternmost producer in the field, proved the best well yet completed in the area when it came in making 82 bbls. per hour at total depth of 4,340 feet, through open 2½-inch tubing. Elevation is 359 feet and top of the Paluxy was logged at 4,178 feet, with saturated sand at 4,235-68 feet. Humble Oil & Refining Co. is a joint owner with Magnolia in this well and lease.

Three locations were staked in the Franklin County part of the pool this week, one of them offsetting the small Bateman well to the west. Three more starts were made in Titus, making a total of six new tests to start in the pool in the past week. Several recent abandonments will no doubt tend to dampen the courage of some of the operators who have proposed stepping out in various directions in the pool in quest of production, the erratic sand conditions checking outpost exploration and limiting drilling to leases lying nearer to the fault plane. One independent has obtained 43 permits to drill on town lots in the pool, but these tests will no doubt be strung out over a long period of time unless many of the permits are farmed out to other operators as has been done by one group of independents who acquired a large number of permits in the pool soon after its discovery. If nothing else will hold down drilling and production in the field limited pipe line outlet will do it, as it will be November before Humble Pipe Line Co.'s line will be completed. Loading racks will have to suffice as outlets until that line is completed. The company will also limit its runs to but a few thousand barrels per day, which will also hold down developments and production.

Wildcatting

A wildcat in Franklin County is to be drilled by Atex Oil Co., of Athens, on the R. L. Jaggers farm, J. Humphreys Survey, 1½ miles northwest of Winfield. Operators are rigging up. Elevation is 398 feet.

A wildcat in Hunt County is to be drilled by Penn Oil Corp. and Foxwood Oil Co. on the A. B. Manning tract in the S. Owens Survey. It is 5 miles northeast of Lone Oak. Derrick is up.

Carolyn & Hasting and others will drill a wildcat in Smith County on the Bennett estate lands, in the Robert Walters Survey, 3 miles northeast of Winona. It is rigged up preparatory to spudding.

D'Arman and others abandoned their Rusk County outpost venture at a total depth of 3,615 feet. The Austin chalk was topped at 3,377 feet and the Georgetown lime at 3,612 feet. Elevation is 427 feet. Location is on the R. E. Talliferro lands, in the T. L. Wilkshire Survey, 5 miles west of Henderson and east of the East Texas field.

Hopkins County Discovery

The Hopkins County discovery, 3 miles south of Sulphur Bluff, Hager and others No. 1 J. E. Worsham, in the A. O. Wetmore Survey, is still in an incomplete stage. However, the owners have staked location for No. 2 Worsham, two locations southwest of No. 1, and other tests are expected to be started as soon as a pumping gauge is reported on the discovery well. This pool will be drilled more conservatively than the Talco pool, due to lack of townlot locations in the vicinity of the discovery. Sulphur Bluff is believed to be too far north to witness any production within the townsite. Low gravity of the crude, lack of drilling water and an outlet will hold back development of this new fault line Paluxy sand pool.

Abercrombie & Harrison are expected to abandon No. 3 Southern Pine Lumber Co. in the D. D. Bruton Survey, 10 miles northeast of Clarksville in Red River County. A bad fishing job has held up drilling for the past three week at 2,294 feet, and another test may be drilled in the immediate vicinity by the operators. This hole has had good oil and gas showings. It topped the Paluxy at 1,057 feet and a sand at 2,104 feet.

Deep Tests

Pure Oil Co. No. 1 Faulkner, located in the William Elliott Survey, near Mount Enterprise in southern Rusk County, which is destined to be carried down to test the lower sections of the Trinity, is now drilling below 7,650 feet. The company has a large block in this area, lying from east to west in which many leases will expire this year consequently the deep test to find whether or not the block will prove productive from any of the possible producing formations.

Another test scheduled to drill plenty deep is Lester and others No. 1 D. C. Baron, in the J. T. Taylor Survey, 8 miles northeast of Elmo in Kaufman County. The test has been sufficiently financed to test all possible pay zones in the district and may go to 6,000 feet. It is now down below 4,760 feet, drilling ahead. Top of the Georgetown lime has been picked up at 4,194 feet.

Miscellaneous Completions in East Texas District

Anderson County

Tide Water and Seaboard Oil Corp. No. 3 Lutterloh, 4,019-38 feet, 127 bbls. in 24 hours through one-eighth inch choke.

Franklin County

DeGrazier and others No. 1 F. N. Bates, dry and abandoned 4,343 feet; top Paluxy 4,274 feet. McAlester Fuel Oil Co. No. 6 Crawford, 4,160-4,306 feet, estimated 40 bbls. per hour.

Henderson County

Cortex Oil Co. No. 2 Wathen, 4,076-4,100 feet, 154 bbls. in 24 hours through one-eighth inch choke.

Rusk County

De'Arman and others No. 1 R. E. Talliferro, dry and abandoned 3,615 feet; top Austin 3,377 feet; top Georgetown lime 3,612 feet; elevation 427 feet; 5 miles west of Henderson.

Titus County

Magnolia Petroleum Co. No. 1 Blackburn, 4,178-4,340 feet, 82 bbls. the first hour. W. P. Luse and others No. 1 W. T. Sullivan, 4,154-4,350 feet, 36 bbls. per hour.

Van Zandt County

Pure Oil Co. No. 7 Swain, total depth 2,995 feet, 71 bbls. in three hours through eleven-sixteenths inch choke.

East Texas Field

Gregg County

Arkansas Fuel Oil Co. No. 3 Roddin, 3,601-37 feet, 10 bbls. per day on pump. Empire Gas & Fuel Co. No. 17 Bander, 3,578-3,607 feet, 16 bbls. in 15 minutes. Gulf Oil Corp. No. 43 Shepherd, 3,485-3,508 feet, 62 bbls. per hour No. 16 Birdsong, 3,565-79 feet, 53 bbls. per hour.

Kewanee Oil Co. No. 25 fee, 3,586-3,630 feet, 26 bbls. in 15 minutes. L. & G. Oil Co. and others No. 1 Alexander, 3,601-22 feet, 30 bbls. in two hours on pump. Shell Petroleum Corp. No. 11 Jones, 3,528-70 feet, 40 bbls. per hour. Sinclair Prairie Oil Co. No. 11 York, 3,590-97 feet, 25 bbls. in 15 minutes; No. 12 York, 3,586-90 feet, 18 bbls. in 15 minutes; No. 34 Andrews, 3,450-54 feet, 25 bbls. in 15 minutes.

Stanolind Oil & Gas Co. No. 11 Cox & Hammond, 3,466-3,503 feet, 21 bbls. in 25 minutes; No. 19-B Stuckey and Thrasher, 3,513-80 feet, 17 bbls. in 15 minutes. Stanolind and Tide Water No. 20-C Flewellen, 3,676-3,702 feet, 15 bbls. in 15 minutes. Stanolind and Atlantic No. 13 Hays, 3,515-76 feet, 23 bbls. in 20 minutes. Arkansas Fuel Oil Co. No. 15 Brown, 3,609-34 feet, 22 bbls. in 10 minutes.

Magnolia Petroleum Co. No. 2 Utzman, 3,460-73 feet, 20 bbls. in four hours on pump. Murko Oil & Royalty Co. No. 3 Hale, 3,496-3,524 feet, 2 bbls. per hour on pump. Sun Oil Co. No. 16 Pentecost, 3,621-55 feet, 43 bbls. per hour. T. L. Wynne, trustee, No. 3 Sabine River bed, 3,463-78 feet, 200 bbls. in eight hours on swab.

Arkansas Fuel Oil Co. No. 38 Burnside, 3,473-3,500 feet, 35 bbls. in 15 minutes; No. 2-B Castleberry, 3,579-88 feet, 11 bbls. in 15 minutes. Atlantic Oil Producing Co. No. 6-A Tooke, 3,509-60 feet, 102 bbls. per hour; No. 15-C Hughey, 3,564-3,602 feet, 120 bbls. per hour. Empire Gas & Fuel Co. No. 15 Bumpass, 3,502-32 feet, 14 bbls. in 15 minutes.

Selby Oil & Gas Co. No. 30-B Snavley, 3,565-76 feet, 38 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 50 Moncrief, 3,557-3,600 feet, 60 bbls. per hour. Stanolind Oil & Gas Co. No. 7-A Herley, 3,599-3,664 feet, 16 bbls. in 15 minutes. Superior Oil Co. No. 21 Ingram, 3,542-97 feet, 90 bbls. per hour. Trapp and others No. 3 Miles, 3,446-3,500 feet, 100 bbls. per hour. Amerada Petroleum Corp. No. 2 Clayton, 3,523-55 feet, 15 bbls. in 15 minutes.

Gulf Oil Corp. No. 81 Hilburn, 3,515-38 feet, 60 bbls. per hour. Arcadia Refining Co. No. 2 Samples, 3,723-26 feet, 30 bbls. in 30 minutes. Lee & Williams No. 5-A Carter, 3,612-13 feet, 5 bbls. in 15 minutes. Magnolia Petroleum Co. No. 5 Hilburn, 3,719-20 feet, 12 bbls. in 15 minutes through 1-inch choke. Marcus Oil Co. No. 9 Clayborne, 3,680-82 feet, 20 bbls. in 30 minutes. W. P. Pearce No. 2 Border, 3,554-70 feet, 45 bbls. in 12 hours on pump.

Rozell Oil Co. No. 6-B Still, 3,505-

51 feet, 10 bbls. per hour on pump; No. 7-B Still, 3,521-56 feet, 12 bbls. per hour on pump. Sinclair Prairie Oil Co. No. 61-A King, 3,484-3,519 feet, 60 bbls. per hour; No. 18-B King, 3,442-80 feet, 36 bbls. in 30 minutes. Sullivan and others No. 1 Elder, 3,775 feet, dry and abandoned.

Rusk County

De'Arman No. 1-B Crook, 3,532-3,635 feet, 167 bbls. in 19 hours on pump. De'Arman & Bauman No. 5 Reddic, 3,619-37 feet, plugged back to 3,620 feet, 20 bbls. in 18 hours on pump. Gulf Oil Corp. No. 6-A Kelling, 3,775-3,800 feet, 67 bbls. per hour through three-quarter inch choke. Humble Oil & Refining Co. No. 49 Blackwell, 3,625-35 feet, 65 bbls. per hour.

M. H. and J. McMurray No. 1 Davis, 3,640 feet, dry and abandoned. Stanolind Oil & Gas Co. No. 27-A Maxwell, 3,565-3,793 feet, 22 bbls. in 30 minutes. Stanolind and Pure No. 19 Burton, 3,590-3,644 feet, 40 bbls. per hour. Atlantic Oil Producing Co. No. 20 Brightwell, 3,581-3,613 feet, 138 bbls. per hour. Humble Oil & Refining Co. No. 40 Peterson, 3,594-3,610 feet, 86 bbls. per hour. Rubin and others No. 7 Wills, 3,633-35 feet, 60 bbls. per hour.

Wheelock & Collins No. 19 Wells, 3,697-3,740 feet, 20 bbls. in two hours on pump. Cherry No. 1 Moore, total depth 2,490 feet, abandoned. Kline and others No. 1 Lacy, 3,664-67 feet, 20 bbls. in 45 minutes. Farrel & Co. No. 5 Hammett, 3,629-33 feet, 12 bbls. in two hours. Humble Oil & Refining Co. No. 9 Dennis, 3,735-3,914 feet, 50 bbls. per hour; No. 46-A Plowman, 3,680-3,728 feet, 118 bbls. per hour. H. and J. McMurray No. 3-B Dickerson, 3,520-3,621 feet, 70 bbls. in 12 hours on pump. Marathon Oil Co. No. 21 Graham, 3,640-60 feet, 80 bbls. per hour. Sinclair Prairie Oil Co. No. 8 Bradford, 3,598-3,650 feet, 80 bbls. per hour.

Smith County

McCutchin No. 6 Jarvis, 3,726-27 feet, 50 bbls. per hour. Sinclair Prairie Oil Co. No. 70-A Mayfield, 3,780-83 feet, 20 bbls. in 20 minutes. Texas Co. No. 18-A Jarvis, 3,611-14 feet, 30 bbls. in 30 minutes. Hanbury No. 6 Sharp, 3,698-99 feet, 70 bbls. per hour.

Medlin No. 8 Mayfield, 3,749-50 feet, 30 bbls. in 30 minutes. Sells Petroleum Co. No. 8 St. Clair, 3,749-50 feet, 30 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 69-A Mayfield, 3,759-64 feet, 60 bbls. per hour. Sun Oil Co. No. 26 Henson, 3,648-53 feet, 38 bbls. per hour.

Upshur County

Day & Co. No. 2 Victory, 3,670-71 feet, 20 bbls. per hour on pump. Humble Oil & Refining Co. No. 35 Smith, 3,606-14 feet, 60 bbls. per hour. Jones & Jones No. 4 Miller, 3,785-87 feet, 20 bbls. per hour; No. 1 Miller, 3,762-75 feet, 40 bbls. in three hours.. Knox No. 17 O'Byrne, 3,760-70 feet, 20 bbls. per hour. Lyon & Neely, No. 1 Hargrave, 3,775-76 feet, 4 bbls. per hour on pump, 50 per cent water.

Magnolia Petroleum Co. No. 20 Hampton, 3,641-50 feet, 90 bbls. per hour. Pewitt No. 2 Phillips, 3,740-44 feet, 12 bbls. per hour. Phillips No. 5 Victory, 3,607-11 feet, 30 bbls. in four hours. Rutledge & Boller No. 12 Todd. 3,730-35 feet, 15 bbls. per hour. Shell Petroleum Corp. No. 22 Landers, 3,647-59 feet, 22 bbls. in 30 minutes.

Mosley No. 1 Hamilton, dry and abandoned 3,771 feet. Sun Oil Co. No. 15 O'Byrne, 3,692-93 feet, 20 bbls. per hour. Tide Water and others No. 22 Flewellen, 3,696-3,702 feet, 7 bbls. in 10 minutes. Watts No. 6 O'Byrne, 3,805-06 feet, 60 bbls. per hour. Wise & Jackson No. 2 Callahan, 3,697-3,728 feet, 25 bbls. per day on pump.

Barnett Oil Co. No. 1-B Cannon, 3,691-95 feet, 25 bbls. per hour. Davis & Hart No. 1 Brawley, dry and abandoned 3,864 feet. General American Oil Co. No. 1 Mackey, 3,756-58 feet, 20 bbls. per hour. Humble Oil & Refining Co. No. 12 Phillips, 3,638-48 feet, 63 bbls. per hour. Jones & Jones No. 2 Miller, 3,740-41 feet, 20 bbls. per hour. Magnolia Petroleum Co. No. 17 Hampton, 3,640-50 feet, 94 bbls. per hour.

Papadakis No. 1 Beard, 3,998 feet, dry and abandoned. Pewitt No. 1-B Sobey, 3,693-95 feet, 50 bbls. per hour. Sun Oil Co. No. 3 Mackey, 3,724-27 feet, 20 bbls. per hour. Tide Water and others No. 22 Nicholson, 3,681-90 feet, 5 bbls. in 10 minutes. Tide Water and Stanolind No. 4-B Flewellen, 3,790-93 feet, plugged back to 3,806 feet, 8 bbls. in 10 minutes.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, July 27.—A decided increase in field operations was apparent in the Central West fields this past week and the number of new locations and drilling wells indicate that this activity will continue for some time.

Twenty-one completions were reported the past seven days. There were five gas wells, three dry holes and one oil producer in the Central Ohio field, three dry holes and one oil well in Indiana and four oil producers and four dry holes in the Kentucky field. The total new production for this past week was 390 bbls. a day.

No completions reported in the Lima field. Montgomery & Co. No. 2 H. Hetrick, in Rice Township, Sandusky County, has been plugged back 400 feet more, to a depth of 2,100 feet where the crew was testing.

In Fulton County, section 16, Clinton Township, M. L. Stevens No. 1 E. Voder was being treated with acid. In section 5, Doner Township, the same operator's No. 1 J. Vonier is down 1,700 feet.

C. K. Rodgers No. 3, in Blanchard Township, Putnam County, on the Shipe & Perry property, is down 100 feet. The same operator is down 360 feet on its Billingaly lease, in section 21, Blanchard Township. Section 28, Crane Township, same county, Upper Sandusky Oil & Gas Co. No. 5 Adolph Veith is still shut down at 1,275 feet.

In Seneca County, section 3, Bloom Township, O'Brian & Co. No. 1 Ditterman is down 1,100 feet and in section 4, Hopewell Township, Harpster & Co. No. 2 was below 100 feet on M. Sandleback lease.

CENTRAL OHIO FIELD

Ten new locations were made in the Central Ohio field, the majority for gas in proven territory. The largest oil producer, completed in this field for some time, was brought in by the Kachelmacher estate on the Hemlock Coal Co. property, section 25, Coal Township, Perry County. It had an initial production of 110 bbls. after a shot. In the same county, section 5, Reading Township, Perry Strum No. 3 E. Vansickle was a commercial gas well with a total depth of 2,957 feet. Wehrle Brothers are moving a rig on the Dora Lonas property for their No. 2, in section 36, Thorn Township. In the same section, on the Alma Beard heirs property, rig is up for the Wehrle Brothers No. 2. Hopewell Gas & Fuel Co. is building a rig on the J. Alberts farm, section 28, Hopewell Township, Perry County. Section 7, Clayton Township, Ohio Fuel Gas Co. No. 1 F. Rhoades, which was last reported with the hole filled up 1,200 feet with oil, after a shot, has been shot again with no success and has been plugged and abandoned.

In Stark County, section 8, Jackson Township, East Ohio Gas Co. No. 1 S. Sogorka was a commercial gas well, with a total depth of 4,275 feet. East Ohio Gas Co. has staked two new locations in Jackson Township, one in section 9, on the J. and L. Heppe property and the other in section 5, on the F. Halasz property. McFarland & Co. is building a rig for No. 3 on the S. and M. Killinger farm, in section 6, Jackson Township. In the same county, section 21, Sugar Creek Township, Ohio Fuel Gas Co. No. 1 Joseph Forney was a dry hole. It was drilled through the Clinton to a total depth of 4,170 feet.

In Coshocton County, section 10, Mill Creek Township, Ohio Gas L. & C. No. 4 Gottlieb Ruess was a small gas well in Berea sand 952-79 feet. It had a rock pressure of 160 pounds.

In Lorain County, section 25, Avondale Township, William Dempsey No. 1 McBride was drilled through the Clinton sand without a show of oil or gas and has been abandoned. Schneider & Wyles No. 1, section 6, Ridgeville Township, is down 350 feet on their Middleburg Stone Co. lease.

Ohio Fuel Gas Co. has staked two new locations in Ripley Township, Holmes County. The first is in section 34, on the Bessie McCluggage property and the other is in section 33, on the Julius E. Gasche property. In section 29, Paint Township, the same company is "drilling in," on the Moses Miller farm. Pure Oil Co. No. 3 S. S. Troyer, section 32, Hardy Township, same county, is also completing.

Brooks Johnson No. 4 Robert Gillie is down 175 feet in section 13, Twinsboro Township, Summitt County. In the same county, section 8, Green Township, East Ohio Gas Co. No. 2 John Beese is down 3,100 feet. Section 31, Green Township, the same operators are "in" 300 feet on the Freeman Daily lease.

Ohio Fuel Gas Co. No. 1 Grace Johnson, section 2, Clinton Township, Wayne County, had a small showing of gas through the Clinton but has been plugged and they are testing in the Newburg. Section 30, Chester Township, same county, Ohio Fuel Gas Co. No. 1 Dale Priest was a commercial gas well, with a total depth 3,042 feet.

In Ashland County, section 13, Montgomery Township, R. C. Jones No. 3 C. R. Fox was dry in Berea 555-65 feet, and abandoned. In section 35, Mohican Township, Ohio Fuel Gas Co. No. 1 Herb Flickinger is down 421 feet. In section 32, Perry Township, the same operator was completing No. 1 on the A. Fridline property.

City Natural Gas Works No. 1 Laura Wagner, section 5, Pleasant Township, Fairfield County, was a commercial gas well, with a total depth of 2,134 feet.

Dove Oil & Gas Co. No. 1 D. McGuire, section 1, Union Township, Pike County, which was shut down after a small show of gas a few months ago, has been definitely abandoned.

KENTUCKY FIELD

Four oil producers and four dry holes were completed in the Kentucky fields. Sunflower Oil & Gas Co. No. 1, on the properties of Griffith, Cobb and Hansford, in the town of Livermore, in McLean County, had an initial of 100 bbls. after the shot. Same county, near Livermore, on the Owens tract, Teller & Co. No. 1 was a dry hole. J. B. Mayer & Co. No. 2 Ellenwood, near Livermore, had production of 35 bbls. the first 24 hours after a shot. Dan McQueen No. 1, on the L. Charlot farm, in the Livermore district, was dry. Petroleum Co. and Bailey No. 3, on the Beard tract, also near Livermore, in McLean County, started at 70 bbls. per day. Ohio Oil Co. No. 1 Cox, near Glenville, Ky., in McLean County, was a dry hole. Hupp & Duff No. 2 John Givens, near Livermore, had a production of 60 bbls. after a shot.

In Daviess County, near Utica, Ky., Petroleum Co. No. 1 Delia Jewell, was a dry hole.

INDIANA FIELD

Three dry holes and one oil producer were reported in the Indiana field. The oil producer was the L. R. Henley & Co. No. 2, on the Fred Pfettcher farm, SW SW quarter section 30, German Township, Vanderburgh County, which had an initial production of 15 bbls. the first 24 hours. In the same township, NE quarter section 31, Big Four Oil & Gas Co. No. 1 Carl and Bessie Weber was a dry hole. In the NW NE quarter section 33, Center Township, same county, John L. Drake No. 3 A. E. Swope was also dry.

In Spencer County, section 12, Huff Township, T. F. Seitz No. 7 Ed Lorch was a "duster" with a total depth of 734 feet. In the same township, SW

(Continued on Page 196)

California Field Report

By L. P. STOCKMAN

STATE IS BEING COMBED FOR NEW OIL AND GAS RESERVES

LOS ANGELES, Calif., July 27.—Exploration work in California extends from the Mexican border in the south to Solano and Humboldt Counties in the far north, with San Joaquin Valley occupying the spotlight. This area, due to the discovery of an oil field by Shell Oil Co. in the Stevens district, Kern County, is unusually active from a leasing standpoint and will show drilling activity through the balance of the year. Extensive leasing has been done between the Buttonwillow gas field and the Stevens field, and, while most of this acreage has been leased on a three-year rental basis, operators will drill wells in areas where the annual rental is near the cost of drilling a wildcat. Major companies, leasing between Buttonwillow and Stevens have been paying on an average of $25 per acre bonus annually for a three-year lease on a one-eighth royalty basis.

In the Buena Vista Lake district of Kern County, Rio Grande Oil Co. has leased approximately 5,000 acres which was quitclaimed a short time ago by Ohio Oil Co. In accordance with this lease the Rio Grande is obligated to drill a well to a depth of not less than 10,000 feet within one year following signing of the lease. Associated Oil Co. is starting a wildcat in the Tejon district of Kern County in section 17-11-19. The test is located 5 miles northeast of the Wheeler Ridge field and about 4 miles northwest of the Reserve Oil & Gas Co. No. 1 Tejon, which showed small production several months ago. The Associated's holdings in this area approximate 7,500 acres, most of which have been secured from the Southern Pacific Land Co.

Rio Bravo

Ohio Oil Co. has logged approximately 4 feet of oil sand in its No. 1 K.C.L., located in Rio Bravo section of Kern County approximately 6 miles northwest of Shell Oil Co. No. 1 Stevens, but data available is not conclusive enough to correlate this oil sand with that found by the Shell in No. 1 Stevens. Ohio Oil Co. had filed an abandonment notice on No. 1 K.C.L. in the Rio Bravo district, but when Shell logged its oil sand in No. 1 Stevens, Ohio Oil Co. immediately resumed drilling operations. No. 1 K.C.L. is coring ahead at 8,714 feet, substantially deeper than the completion depth of Shell No. 1 Stevens.

North Belridge Field

In the North Belridge field No. 20 Belridge of Union Oil Co. was brought in flowing 546 bbls. of clean 35.2 gravity oil and 370,000 feet of gas per day from 8,441 feet. The hole bridged over at 8,306 feet. The company is cleaning out this sand bridge and should have the well back on production within 10 days. No. 4 McPhail of the Standard Oil Co. was completed flowing 717 bbls. of clean 35.4 gravity oil and 1,146,000 feet of gas per day from 8,465 feet. Continental Oil Co. has rig up for No. 8 Result and it should begin making hole within a fortnight. Rio Grande Oil Co. is drilling ahead in No. 1 Belridge at 1,841 feet. It is located at the foot of the Temblor range 5 miles southwest of the North Belridge field.

Montebello

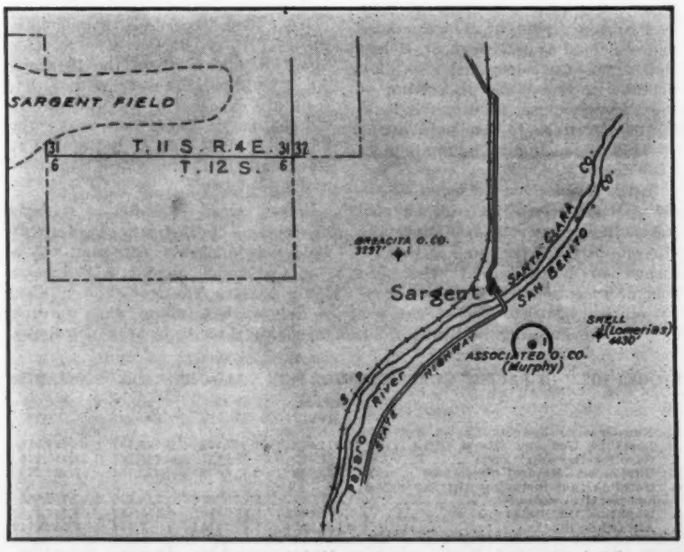
Richfield Oil Co. No. 1 Ciocca, in the eastern extension of the Montebello field, blew in while the crew was swabbing for a water shutoff test on the 8⅝-inch landed at 5,898 feet and preparations are under way to recement the water string. This well came in flowing at the rate of 1,100 bbls. per day, but the output showed a cut of approximately 50 per cent which indicated that a water shutoff had not been effected. Republic Petroleum Co. is rigging up rotary for its initial well in the Montebello extension on 33 acres of fee-owned property. Richfield Oil Co. has rig up for No. 1 Estrada and should get under way within a week.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 12		July 5			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	151,541	527,098
Gasoline	.....	.....	229,814	32,831	3,504,392	4,162,725
Kerosene	79,074	11,296	.....	.....	809,035	669,351
Foreign exports:						
Crude oil	82,791	11,827	54,470	7,781	4,912,984	6,246,635
Fuel oil	199,174	28,453	140,147	20,021	5,583,590	7,029,073
Diesel and gas oil	190,455	27,208	135,091	19,299	3,189,740	2,508,155
Gasoline	227,831	32,547	157,941	22,562	3,860,653	3,364,163
Kerosene	41,370	5,910	124,089	17,727	844,643	813,478
Other unfinished oil	.....	.....	.....	.....	16,894	69,362
Coastwise-domestic:						
Crude oil	95,386	13,627	.....	.....	3,684,580	3,130,158
Fuel oil	290,618	41,517	196,431	27,919	4,986,819	5,196,673
Diesel and gas oil	5,514	788	9,759	1,394	701,508	523,381
Gasoline	177,874	25,411	213,514	30,502	6,870,627	5,610,428
Kerosene	.....	.....	.....	.....	128,225	77,140

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	157,258
Gasoline	.....	.....	.....	.....	227,419	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	69,511	9,930	.....	.....	138,097	280,849
Lubricants	4,052	579	.....	.....	31,725	29,221
Foreign exports:						
Crude oil	178,017	25,431	95,097	13,585	1,771,184	1,426,499
Fuel oil	25,676	3,668	16,418	2,345	1,517,197	1,101,382
Diesel and gas oil	.....	.....	17,138	2,448	628,230	630,348
Gasoline	287,700	41,100	95,846	13,692	2,078,455	1,599,031
Kerosene	6,181	883	6,943	992	402,298	468,940
Lubricants	6,215	888	.....	.....	156,289	131,784
Coastwise-domestic:						
Fuel oil	.....	.....	99,787	14,255	3,787,985	3,341,387
Diesel and gas oil	.....	.....	.....	.....	388,473	141,667
Gasoline	41,316	5,902	87,176	12,454	2,794,977	2,700,302
Kerosene	9,480	1,354	.....	.....	97,810	60,647



Associated Oil Co. has started a test in San Benito County southeast of the old Sargent field in Santa Clara County

On the Pasadena lease, the Universal Consolidated has reached 5,753 feet in No. 2 and an early completion is anticipated.

Chanslor Canfield Midway Oil Co. recompleted No. 23 Del Amo in the Torrance field of Los Angeles Basin after plugging back from 4,887 feet to 4,400 feet, and returned the well to production, pumping 80 bbls. of relatively clean 25.4 gravity oil per day. It was recently bottomed in the Schist, but proved wet on a test from 4,887 feet and was plugged back. Texas Co., in the Torrance field, completed No. 6 Redondo Improvement, flowing 242 bbls. of clean 19.3 gravity oil per day from 3,617 feet. No. 2 Redondo of Lawler Petroleum Co. pumped 148 bbls. of 18.1 gravity oil per day from 3,591 feet. Development work in the Redondo or western extension of the Torrance field is declining and production is headed for a definitely lower level despite the fact that permits were granted last week for five new wells which are scheduled for immediate drilling.

Kettleman Hills

The Kettleman North Dome Association (Kenda) No. 21-34-J, in the North dome of Kettleman Hills, was good for 1,850 bbls. of clean 33.7 gravity oil and 1,810,000 feet of gas upon completion at 8,090 feet. It was finished with a 6⅝-inch liner carrying perforations at 7,351-7,400 feet, 7,465-7,495 feet, 7,575-7,635 feet and at 7,665-8,085 feet and was cemented through perforations at 7,335 feet and at 7,565 feet. Kenda's No. 41-34-J should be tanking oil within another day or two. No. 41-34-J has been bottomed at 7,915 feet and has been cemented through perforations at 7,458 feet and at 7,836 feet. Kenda has six incompleted drilling wells making hole below 8,100 feet and should complete several of these within 30 days. Standard Oil Co. has seven wells in the North dome drilling below 8,000 feet and should likewise show a large completion list in the next six weeks. Shell Oil Co. is redrilling No. 1 Dixon at 6,000 feet. No. 1 Dixon went to water a few months ago and showed a substantial decline in crude oil production. It is believed remedial work will correct this condition. The Standard Oil Co. spudded No. 46-19-V in the Kettleman Middle dome field and is rotating ahead below the 3,000-foot level.

Western Gulf Oil Co. finished a good well in the Fruitvale field of Kern County when No. 4 Parker was brought in flowing 670 bbls. of clean 22.3 gravity oil per day from 3,493 feet after the hole had been plugged back from 3,524 feet and finished with a 6⅝-inch liner including 131 feet of perforated. On the K.C.L. lease, the Gulf is rigging up pumping equipment on No. 22 and should

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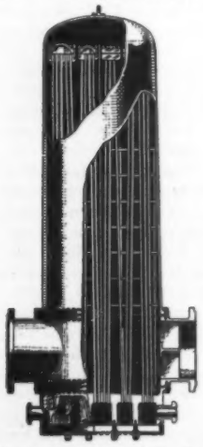

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have another potential producer ready for a test shortly, as No. 4 Red Ribbon has been completed as far as footage is concerned. Tarr & McComb No. 3 Fairhaven was good for only 34 bbls. of 22.4 gravity oil per day upon completion at 3,190 feet. Exeter Oil Co., which recently started a well in the Fruitvale field, is drilling at 2,890 feet. Jergins Syndicate, which is running five strings of tools in the Edison field, completed No. 13 Hershey, pumping 80 bbls. of 16.1 gravity oil per day from 1,855 feet after the hole had been plugged back from 2,502 feet. M. & L. Oil Co. No. 2 Edison, completed at 2,078 feet, does not have sufficient saturation at the completion depth as it pumps off. The company will attempt to open up some additional formation and preparations are under way to perforate the 6⅝-inch higher up in the hole.

Kern River

American Exploration Co. No. 1 Kern in section 16-28-27, out on the Kern Front section of the Kern River field, was good for 134 bbls. of relatively clean 15.1 gravity oil per day upon completion at 2,862 feet and tentative plans call for the drilling of a second well on this property within the next 30 days. Republic Petroleum Co. is putting the finishing touches on No. 4 Fleishacker in section 11-28-27. Water appears to have broken in on the Seven Spot Oil Co. No. 1 in section 13-28-27 as the output is showing an excessive cut. Chanslor Canfield Midway Oil Co. has spudded in on its acreage in section 23-28-27 and is making good progress. In the Round Mountain field, Barnsdall Oil Co. completed No. 9 Caldwell in section 7-28-29, pumping 215 bbls. of clean 16.4 gravity oil per day from 1,887 feet. Honolulu Oil Corp. is rigging up pumping equipment on No. 34 in section 18-28-29. Shell is completing two wells in this field and both No. 8 Caldwell and No. 1-9 Olcese should be finished shortly. Gibson Oil Co. has recompleted No. 1 O'Brien in the Midway-Sunset field of Kern County after deepening from 2,815 feet to 2,905 feet and returned it to production, flowing 580 bbls. of clean 24.1 gravity oil per day. The company's No. 1 Westside, in section 8-11-23, should be ready for a production test within a few days as drilling operations have been concluded at 3,085 feet and a string of 9-inch landed and cemented at 3,024 feet. St. Helens Petroleum Co. deepened No. 2-B Schultz in the Maricopa section of the Midway-Sunset field and is making preparations to cement a string of 6⅝-inch casing at approximately 3,535 feet.

In the Dominguez field of Los Angeles Basin, Shell has recompleted No. 7 Reyes after deepening to the Miocene at 6,977 feet, and it was returned to production flowing 570 bbls. of exceptionally clean 30.5 gravity oil and 800,000 feet of gas per day. In the Huntington Beach field, Texas Co. completed No. 6 Towers at 4,320 feet. It is pumping 76 bbls. of clean 23.5 gravity oil per day. At Long Beach, Oceanic Oil Co. finished No. 5 Signal, pumping 100 bbls. of clean 26.1 gravity oil per day. M. Bowles has taken over two abandoned wells on the Peterson lease in the Santa Fe Springs field and will redrill both in an attempt to develop commercial production. These wells, No. 1-A Peterson and No. 2-A Peterson, were abandoned by Wilshire Oil Co. The former was bottomed at 7,409 feet and the latter at 7,950 feet. It is the present intention to perforate the pipe opposite the Meyer zone and by careful selection pick out the desired amount of productive formation. Bolsa Chica Oil Co. has recompleted No. 3 Snow in the Piru section of Ventura County for 380 bbls. per day of clean pipe line oil. Continental Oil Co. has started rig construction for its second well in the Javon field, which the company discovered last year and an early spud is anticipated. Chanslor Canfield Midway Oil Co. well in that district has failed to come up to expectations and the company will probably undertake remedial work or drill ahead to the second zone.

Southwest Texas Fields

(Continued from Page 189)

No. 2 Ellich has oil sand at 3,881-3,908 feet and is cleaning into pits. The test is showing difficulty in completing, due to sanding up. It offsets the same operator's No. 1 Ellich, which blew out and ran wild for several days, blowing oil from the deep sand, before being shut in, plugged back and completed as a gasser in a shallow sand. Santa Clara Oil Co. is getting under way on an east offset to discovery. This test will be watched with interest, since the west offset failed to make a producer. In the southwest section of the field, H. M. Reed has announced location for a test on the Roper lease in section 108.

Farther to the south, O. W. Killam will spud in shortly on the No. 1 Crook, a wildcat located about 2 miles northeast of the town of Bishop. This test, being in the general locality of Clara Driscoll, will also command considerable interest as it progresses.

The new Flour Bluff field is to receive a test, according to announcement of Gem Oil Co. of a location about .8 mile north of the Hurlburt No. 1 Phillips, discovery well. Other tests are expected in the near future by the major lease holders in the block: Humble Oil & Refining Co., Barnsdall Oil Co. and M. F. Hurlburt and associates.

A southwest extension to the gas production of the new Bentonville field was made as Stanolind Oil & Gas Co. completed No. 1 Thompson for a gasser. The test showed 1,580 pounds on the tubing when flowing through a three-sixteenths inch choke.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

		May 31, 1936	Apr. 30, 1936	May Changes	May 31, 1935
1.	Non-Gasoline-Bearing Crude, Residum, Gas and Diesel Oils	71,571,022	71,065,525	+505,497	64,017,219
2.	Gasoline-Bearing Crude	38,734,077	39,470,817	—736,740	33,237,110
3.	Unblended Natural Gasoline	2,133,295	1,910,543	+222,752	2,811,370
4.	Gasoline (not including distributing and service stations)	12,889,851	12,376,015	+513,836	9,762,526
5.	Naphtha Distillates	1,689,495‡	1,534,084‡	+155,411	1,290,424‡
6.	All Other Stocks	9,500,622§	9,493,275§	+ 7,347	8,248,871§
	Total	136,518,362	135,850,259	+668,103	119,367,520
	‡Estimated amount of unfinished gasoline contained in item 5	1,400,989	1,273,286		1,043,186
	§Coke included in item 6	331,003	338,464		628,822

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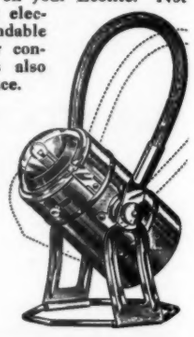

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West and North Texas

By
L. E. BREDBERG

YOAKUM AND GAINES TESTS MAINTAIN HIGHEST INTEREST

FORT WORTH, Tex., July 27.—Yoakum and Gaines County wildcats continue to hold the major part of interest in the West Texas Permian Basin, with one in the former county drilling near the pay found in the county's discovery well 12 miles southeast, and the other nearing the pay found in the Gaines County discovery of Landreth Production Co. on the Kirk property.

The latter well, located in section 22, Block A-21, P.S.L. Survey, about 9 miles southwest of Seminole, which swabbed 107 bbls. in 24 hours and later flowed 155 bbls. when opened after being shut in for a couple of weeks, showed a small amount of sulfur water, 1 bbl. hourly when bailed, and is now plugging back at 4,870 feet to shut off the water and be given a shot in hopes of raising its potential. It was acidized twice when first completed at 4,820 feet, but was later deepened 50 feet.

The other important test in the county is about 6½ miles northwest of the Landreth discovery, and is being drilled by Humble Oil & Refining Co. on the Eubanks ranch, in section 6, Block AS. It is running higher on markers to the top of the Brown lime logged at 3,920 feet. It is now shut down at 4,584 feet in lime, reaming out 6⅝-inch hole to 8¼-inch. It is an extremely interesting test due to its geological position, being higher on structure than the Landreth producer. Elevation is 3,365 feet.

The Yoakum County wildcat of interest, Bahan and Rhodes No. 1 Henard ranch, in section 367, Block D, J. H. Gibson Survey. Top of the gray lime has been picked up at 4,660-85 feet, the latter figure being 298 feet in the gray lime section. It is now drilling around 4,985 feet with no showing of oil or gas. Top of the Brown lime was logged at 4,491 feet, nearly 300 feet higher than found in the discovery to the southeast. The test is nearing a critical point, with the next two or three days' drilling to show whether or not it will make a producer. First oil in the Yoakum County discovery was logged at 5,090 feet, and the well was completed at a total depth of 5,282 feet after plugging back to shut off water and shoot.

Wildcat Locations

Three interesting wildcat locations were staked in the district, two by York & Harper of Midland, and the other by the California Co. The latter test will be in the SW quarter of section 25, Block 35, Township 3s, T.&P. Survey, Glasscock County, about 6 miles southwest of a test recently abandoned by the Fleetborn Oil Corp. in section 13, Block 34, Township 3s, T.&P. Survey. That test was given up as dry at 3,417 feet, but attracted considerable attention when it logged some good oil showings.

The other two wildcats are to be drilled in Ector County, one about 3½ miles east of the Penn pool and the other about 5½ miles west of the nearest production in the southern part of the Goldsmith field. York & Harper No. 1 Slater is located in the NW quarter of section 26, Block 45, Township 1s, T.&P. Survey, in the west central part of the county. The other test is on the York lands in the NE cor. section 10, Block 44, Township 3s, T.&P. Survey.

Runnels Test

H. E. Purdy of Abilene has assembled a block of 25,000 acres in the northwest part of Runnels County on which a test is to be drilled in quest of production from the McMillan pool pay, and if failing to find oil in this horizon, is to go down in quest of Ordovician production, according to reports from the field.

Coke Wildcat

Contract has been signed with land owners for the starting of a wildcat south of Blackwell in eastern Coke County within 90 days. Midkansas Oil & Gas Co. obtained some oil in a couple of tests drilled in this area a couple of years ago, although they failed to make commercial producers. The company, now Marathon Oil Co., however, retained its leases on some 1,000 acres in the vicinity of the tests. Lem Peters has contract to drill the test for Marathon.

Winkler County Wildcat

Another northeast Winkler County wildcat looks destined for abandonment as it is shut down at 5,005 feet, with no showings of oil or gas. C. M. Joiner drilled this test on the Evans ranch, in section 46, Block 73, 8 miles east of a test abandoned last week by Fred Heyer in section 8, Block A-56. The Joiner test is now 5 feet below contract depth and is shut down for orders.

Winkler County Purchase

The largest purchase of producing leases made in the West Texas district in several years was consummated when Atlantic Oil Producing Co. took over a quarter interest held by Wahlenmaier Petroleum Corp. in the S half of the SW quarter of section 34, Block 74; a one-half interest in the NW quarter of section 3, Block 26, and a one-half interest in the S half of the SW quarter of section 3, Block 26, all in the recently opened prolific Henderson area which is north of the Hendrick field in Winkler County. Atlantic held the remaining interests in the leases and has been drilling and developing the leases with Wahlenmaier. Wells in this area have proven to be the best of those completed in the several new producing areas to the east and north of the Hendrick field.

Schleicher County Deep Test

The wildcat test of Cardinal Oil Co. and Rowan & Nichols, on the Whitten ranch, in section 35, Block LL, T.C. Survey, about 4 miles north of Eldorado in Schleicher County and 660 feet north of a dry hole which had good oil and gas showings in lime topped at 4,910 feet, failed to pick up any such showings and is now drilling ahead below 5,025 feet in lime, possibly to be carried to the Ordovician. A 7-inch string of casing was set at 4,890 feet to shut off salt water at 4,867 feet. Contract depth was 5,000 feet on this second test for the area. It will make an exceptionally interesting test if carried to the deeper formation, for many are of the opinion that this county will eventually pay off in the deeper pay formations, Ordovician, there now being a gasser standing shut in about 12 miles southeast of Eldorado, drilled by John Cooper on the Page ranch. It is producing from the Pennsylvanian from 5,405-5,553 feet. It is also good for from 12 to 15 bbls. of oil per day. It is located in section 40, Block L, B.H.&S.A. Survey.

Hawley Discovery Deepened

Sinclair Prairie Oil Co. (formerly F. E. Shaheen) No. 1 King, drilled in June, 1929, as the discovery well of the Hawley field in Jones County, and completed in the Bluff Creek sand at 2,006 feet, has been deepened to the lower Hope sand at 2,213 feet and made 120 bbls. per hour through 5-inch casing, making in one hour as much as it made upon its initial completion. It has been pumping. Location is in section 7, Manuel Bueno Survey.

Locations and Completions

There were 29 tests completed in the West Texas district this week, 2 of them abandoned. One of these latter was a wildcat in Pecos County, and the other an extension test in the Hurdle area of Upton County. Thirty-nine locations were staked.

Wichita Falls District

Hinson & Tidwell are extending deep production in the James pool northwest of Graham in Young County one half mile, in No. 1 Thompson, located in section 427, T.E.L. Survey. It was given a 150-quart shot in the sand logged at 3,776-3,940 feet, and flowed at the rate of 1,500 bbls. per day after cleaning out. It is located north of Pitzer & West production on the McComas land.

Helmerich & Payne, of Tulsa, are moving in material for a 4,200-foot test in the north 180 acres of the B.B.B.&C. Survey, Abstract 36, on the M. K. Graham lands, about 2 miles southeast of a recent well brought in in section 1,985, by Texas Co. in Young County.

Montague Dry Hole

Two miles east of Nocona, Grisso Royalty Co. has abandoned its No. 1 Annie Jackson, in the Jackson Survey, after drilling to a total depth of 4,000 feet. This is one of the deepest tests drilled in that district.

Petroleum Producers and others abandoned an interesting wildcat in section 24, Block 4, Clark and Plumb Survey, southwest of Windthorst, in Archer County. It was drilled to 1,996 feet, and will cause a slowing up of activities in this area.

A and K Pool in Cooke County

The Anderson and Kerr pool, 3 miles east of Gainesville, is now handicapped by the lack of demand for the production and several tests are now setting shut down on top of the sand for lack of storage and pipe line outlet. An outlet is being constructed to connect with a loading rack on the railroad nearby, but same will not be able to accomodate the present and new production, consequently developments are to be retarded in the new high-gravity field unless some major pipe line connects with the pool. It is one of the best pools in Cooke County and has recently seen a spirited drilling campaign. Oklahoma and North Texas operators are developing same, there being no major producer operating in the field.

West Texas Sale

The state of Texas sold leases on 76 West Texas tracts this week to the highest bidder, garnering $299,800 in bonuses on same from various companies and individuals. The greater number of leases, 56, being located in Andrews County, whereas others were sold in Crane, Ector, Upton and Ward Counties. Rentals on these leases is 50 cents per acre. The highest bonus paid was $298 per acre for some acreage in Crane and Ector Counties. The lowest was $6 per acre, for some Upton County and Andrew County leases.

WEST TEXAS COMPLETIONS

Crane County

M. F. Turner No. 2 Hughes, 2,320-2,415 feet, acidized, 411 bbls. day; Tide Water Oil Co. No. 1 Edwards, 3,240-3,590 feet, acidized, 333 bbls. in two hours. Gulf Oil Corp. No. 14 Waddell, total depth 3,536 feet, plugged back to 3,531 feet, shot and acidized, 8,640 bbls., 17 per cent acid and water.

Ector County

Gulf Oil Corp. No. 5 Goldsmith, 4,134-4,200 feet, shot and acidized, 1,412 bbls. Phillips and Pure Oil Co.

No. 5 Cowden, 4,120-58 feet, 2,815 bbls. day. Landreth Production Co. No. 2-B TXL ranch, 4,195-4,257 feet, shot, 840 bbls.

Andrews County

Humble Oil & Refining Co. No. 8 Means, 4,504-4,525 feet, acidized, 703 bbls. day.

Howard County

Sinclair Prairie Oil Co. No. 3-B Davis, 2,480-2,480 feet, 440 bbls. day; No. 5-B Denman, total depth 2,820 feet, shot, 226 bbls. Ennisbrook Oil Co. No. 10 Texas Land & Mortgage Co., 2,600-2,780 feet, shot, 500 bbls.

Jones County

Sandy Ridge Oil Co. No. 5 Jones, 1,938-62 feet, shot, 147 bbls.

Pecos County

Union Oil & Mining Co. No. 1 Pott, 1,706-70 feet, 40 bbls. Cardinal Oil Co. No. 10-A Smith, total depth 340 feet, 253 bbls. Dobbs Oil Co. No. 1 Rooney, dry and abandoned 2,639 feet, elevation 3,005 feet.

Upton County

Atlantic Oil Producing Co. No. 2 Sherk, total depth 2,394 feet, shot and acidized, 480 bbls. Fensland Oil Co. No. 2 King ranch, 2,135-67 feet, acidized, 205 bbls. T. B. Knox No. 1 Cordova Union, dry and abandoned 2,275 feet, elevation 2,547 feet.

Ward County

Sinclair Prairie Oil Co. No. 2 Carnagie, 2,252-2,339 feet, shot, 81 bbls.; No. 3 Hill, 2,875-2,535 feet, shot, 447 bbls. Rixford Oil Co. No. 5 Greene, 2,313-2,463 feet, shot, 139 bbls. F.H.E. and Atlantic No. 2 Killough, 2,234-2,367 feet, shot, 390 bbls. Caprito Oil Co. No. 2 Beatty, 2,390-2,507 feet, shot, 370 bbls. Eastland Oil Co. No. 4 Greene, total depth 2,455 feet, plugged back to 2,408 feet, 203 bbls. California Co. No. 13 Gordon, 2,345-2,525 feet, shot, 425 bbls.

Winkler County

Sinclair Prairie Oil Co. No. 4-B Walton, 2,800-2,980 feet, plugged back to 2,970 feet, shot, 1,178 bbls. Crafton Oil Co. No. 3 Pure-Walton, 3,316-3,400 feet, plugged back to 3,387 feet, shot, 17 bbls. per hour. Magnolia Petroleum Co. No. 25 Walton, 2,864-3,015 feet, plugged back to 2,935 feet, shot, 398 bbls. Shell Petroleum Corp. No. 1 Hendrick, 2,993-3,166 feet, shot, 789 bbls. Humble Oil & Refining Co. No. 11 Howe, 2,895-3,000 feet, shot, 760 bbls.

NORTH TEXAS COMPLETIONS

Archer County

S. S. Alexander Oil Corp. No. 1 R. D. Andrews, 955 feet, dry. L. T. Burns No. 1 Kate Ahrens, 1,050 feet, dry; No. 1 T. B. Wilson, 1,613½-20 feet, 10 bbls. C. B. Christie No. 6 L. F. Wilson, 1,604-10 feet, 75 bbls. Consolidated Oil Co. No. 2 Portwood DD, 1,429-40 feet, 25 bbls. Fraser & Proctor No. 1 L. F. Wilson, 949 feet, dry.

Golding & Cochran No. 1 B. O. Watson, 860 feet, dry. S. H. Huggins and others No. 15 H. Ford, 1,124 feet, dry. Jennings Petroleum Co. No. 3 Mrs. E. V. Pearston, 1,190 feet, dry. King Oil Co. No. 2 M. E. Rogers A, 1,273-77 feet, 5 bbls. C. B. Long No. 13 J. H. Turbeville, 1,504-16 feet, 20 bbls. J. T. Miller No. 1 J. F. Rogers, 1,504 feet, dry.

W. B. Omohundro and others No. 1 H. Osterman, 2,007 feet, dry. Phillips & Healey No. 4 J. C. White, 700 feet, dry. Producers S. & T. Co. No. 5 Neimeyer, 1,450-56 feet, 5 bbls.

Baylor County

Morris & Spoonts No. 1 A. K. Martin, 1,140 feet, dry.

Cooke County

Anderson & Kerr No. 2 King, 2,015-19 feet, 620 bbls. Benton & Holmes No. 1 T. Hildebrand, 2,509 feet, dry. Burk Royalty Co. No. 1 O. Nickle, 2,214 feet, dry. Fain-McGaha Oil Corp. No. 1 J. W. Mount, 1,596-1,603 feet, 50 bbls.; No. 2 J. W. Mount, 1,478-92 feet, 60 bbls.

T. P. Frost No. 4 J. Rohmer, 1,827 feet, dry. Joseph Oil Co. No. 1 William Bergman, 1,978 feet, dry. Mudge Oil Co. No. 15 Johnson, 1,100-1,120 feet, 15 bbls. Seitz, Comegys & Seitz No. 16 R. W. Trew A, 1,198-1,224 feet, 110 bbls.; No. 17 R. W. Trew A, 1,063-76 feet, 10 bbls.

Clay County

Metzner & Burns No. 2 J. J. Taylor, 338 feet, dry; No. 3 J. J. Taylor, 360 feet, dry.

Wichita County

Coleman & Coppock No. 4 G. R. Hoge, 812-18 feet, 5 bbls. Fain-McGaha Oil Corp. No. 1 Mrs. E. Kempner, 1,802 feet, dry. Magnolia Petroleum Co. No. 14 Allen, 2,093 feet, dry. G. V. Minnick No. 2 Martin, temporarily abandoned location..

T. B. Medders No. 1 S. W. Wigley, 1,406 feet, dry. George B. Ray, No. 3 Robinson A, 1,885-1,914, 30 bbls. Reno Oil Co. No. 1 W. T. Waggoner D, 660 feet, junked; No. 1-A Waggoner D, 1,653 feet, dry. J. M. Seaberry No. 1 Gugginheim, 700 feet, dry.

Jack County

Josalin Production Co. No. 2 Hester, 2,968-90 feet, 25 bbls. Knott and others No. 2 C. Webb, 380 feet, dry.

Montague County

Arco Oil Co. No. 4 Mrs. M. H. Salmon E, 1,702-15 feet, 60 bbls. Continental & Seitz No. 1 E. W. Johns, 2,074-84 feet, 350 bbls. Grisso Royalty Co. No. 1 A. Jordan, 4,000 feet, dry.

Wilbarger County

Fain-McGaha Oil Corp. No. 10 Waggoner Y, 2,391-2,400 feet, 65 bbls. Staley & Wynne No. 9 Waggoner E, 1,925 feet, dry.

Young County

Bohner & Wilson No. 4 Prideaux Brothers, 489-511 feet, 8 bbls. Duncan Holt and others No. 15 Benson, 904-10 feet, 150 bbls. V. E. Eckholm, trustee, No. 1 J. O. Stratton, 576 feet, dry. Fresno Oil Co. No. 1 Andrews A, 890 feet, dry. W. B. Hamilton No. 1 Edwards, 1,257 feet, dry. Hinson-Tidwell No. 1 S. D. Thompson, 3,935-40 feet, 1,200 bbls. J. E. McDonald No. 3 Jeffery, 828-37½ feet, 199 bbls.

Will McKemie No. 9 F. M. Cullers, 656 feet, dry. Pemeta Oil Co. No. 13 Benson, 861-67 feet, 35 bbls.; No. 14 Benson, 915-25 feet, 20 bbls.; No. 1 Campbell, 960 feet, dry. R. E. Skinner and others No. 1 C. B. Daniels, 555 feet, dry. Solo Oil Co. No. 5 Otto Deitrich, 1,085-1,103 feet, 30 bbls. R. J. Watson No. 2 Larimore A, 610 feet, dry.

Completions and Operations in New York-Pennsylvania Gas Field

By R. C. CONINE

COUDERSPORT, Pa., July 27.—There were two completions in the New York-Pennsylvania Oriskany gas belt in the week ending July 24. Sylvania completed a 2,250,000-foot gasser on the George McCutcheon farm, Harrison Township, Potter County, at a total depth of 5,026 feet. In New York, Southwestern completed a test on the F. C. Smith farm, Hanover Township, Chautauqua County. This well, completed at a total depth of 2,120 feet, gauged 14,000 feet after a shot of 27 quarts.

H. C. Drilling Co. is nearing completion of what promises to be an important discovery gasser on the Lessor & Louner property, Kinzua Township, Warren County. This test, drilled to 4,674½ feet after topping the Oriskany at 4,673 feet, was blowing an estimated 1,000,000 feet a day while operators were preparing to set casing at the close of the week. Located on what is said to be the Emporium-Kinzua cross anticline, this test is expected to open a good field considerably removed from the original Oriskany gas belt.

Pennsylvania Operations

G. L. Cabot was drilling at 3,450 feet on the Theodore Cobb farm, Genesee Township, Potter County. Sylvania was idle at its location on the J. Steadman farm, same township. G. L. Cabot was drilling at 3,080 feet on the Guy Thompson farm, same township. Potter Development Co. was drilling at 3,975 feet on the Crawford estate property, Keating Township, Potter County. Beal McCandelless was drilling at 2,300 feet on the Costella & Thompson property, Genesee Township, same county. Penn York was drilling at 620 feet on the Norman Courtwright farm, Harrison Township, same county, and at 320 feet on the Lena Barns farm, same township.

Hanley & Bird was idle at its location on the Perry & Crandall farm, Bingham Township, Potter County. Potter Development Co. was drilling at 2,275 feet on the D. Spetz farm, Pittsfield Township, Warren County. Interest is centered on this test as the operators say they are prospecting the Orinskany in this area for possible oil production. G. L. Cabot was drilling at 4,205 feet on the J. L. Lattimer farm, Clymer Township, Tioga County. The well is in the sand, and gas flow at present is gauged at 5,250,000 feet a day. Shoop and others were drilling at 2,010 feet on the H. Gee farm, same township. Potter Development Co. was drilling at 485 feet on the W. M. Pettigrew farm, Farmington Township, same county. Penn United was building a rig on the Ellis Williamson farm, Clymer Township, same county. Penn York was digging cellar on the Fred Plaisted farm, Harrison Township, Potter County. G. L. Cabot staked a location on the Stella Porter farm, Allegany Township, Potter County.

New York Operations

G. L. Cabot was drilling at 4,150 feet on the Lee Harder, Alma Township, Allegany County. Schrack and others were drilling at 2,000 feet on the D. L. Crane farm, same township. G. L. Cabot was drilling at 706 feet on the Patricia O'Donnell farm, Willing Township, same county. Belmont Quadrangle Development Co. was drilling at 300 feet on the Van Campen No. 2, same township. Wittmer and others were cleaning out at 3,320 feet on the Forrest Carpenter farm, Smith Township, same county. Belmont was drilling at 1,970 feet on the B. Franklin farm, Leon Township, Cattaraugus County. Natural Gas Producers was shut down at 710 feet on the Eddy farm, Rome Township, Oneida County. Ross and others were shut down at 436 feet on the G. Wright farm, Portland Township, Chautauqua County. Carpenter and others were drilling at 2,110 feet on the Ely Shearer farm, Hector Township, Schuyler County. Belmont was digging cellar on the W. Gardiner farm, same township.

Central West Fields

(Continued from Page 192)

NE quarter section 6, Wayne Gale No. 2 is drilling on the John Heinze property. In section 11, Troy Refining Co. No. 7 Lee Carlton is down 500 feet.

J. Harvey Snider No. 1 is being drilled on the Noble Jeffrie farm, in NE NW quarter section 3, Van Buren Township, Shelby County.

ILLINOIS

Another good well is reported in the Bartelso district in Clinton County, Illinois, starting at 200 bbls. per day from sand at 1,033 feet. The oil is said to be of 36 degrees in gravity. Five new drilling wells were started. Ohio Oil Co. and other operators and lease holders in the district are taking part in the development work.

Interest in the oil possibilities of the Illinois central coal basin, west of the LaSalle anticline, is indicated by the activity of geophysical parties sent in there by seven or eight of the major oil companies. It is understood that Texas Co., Carter Oil Co., Pure Oil Co., Shell Petroleum Corp., Stanolind Oil & Gas Co., Ohio Oil Co. and Adams Louisiana Co. have all had at least one geophysical crew in that area this summer and have been active in leasing following field reports. It is also understood Tide Water Oil Co. has had a crew in the area. This line of development work is similar to that which brought about the opening of the Michigan Basin oil fields some years ago by Pure Oil Co.

Texas and Louisiana Gulf

By
F. L. SINGLETON

INTEREST CENTERS ON TWO GALVESTON COUNTY TESTS

HOUSTON, Tex., July 27.—Operators along the Gulf Coast were watching for the results of production tests on two wildcats on the Greens Lake and Hitchcock prospects in Galveston County, being explored by the Sun Oil Co. and Shell Petroleum Corp.

In the southwestern part of the county on the Greens Lake prospect, Sun Oil Co. No. 2 Hughes has been plugged back from a depth of 5,084 feet to 3,981 feet and is testing the Pliocene sand from 3,857-75 feet, which showed 10 ohms resistance on on electrical coring test. Seven-inch casing was cemented at 3,845 feet and hole is being swabbed. It is 933 feet northeast of the company's No. 1 Hughes, which was temporarily abandoned after making a favorable showing at approximately the same depth. To the south about a mile in the D. Buckley Survey, No. 1 Houston Farms is drilling in sand below 3,159 feet and should reach the expected pay horizon by the end of the week.

To the northeast on the Hitchcock prospect, Shell Petroleum Corp. No. 1 Mac Stewart located in the S. Spillman Survey, is coring sand showing oil at 6,492 feet and is scheduled to be cored several feet deeper before making a drill stem test. The operators attempted two tests from 6,438-68 feet and 6,534-68 feet, but the seat failed to hold and they were failures. This is one of the most attractive wildcats drilling on the Gulf Coast and the favorable showing encountered in the Miocene sand makes the outcome of the well look very favorable.

Shell Petroleum Corp. No. 1 F. H. Carpenter, which opened a new pool on the Nome prospect, Jefferson County, the past week, has been shut in for lack of storage. On a potential test through a quarter-inch choke it flowed 574 bbls. of 26.9 gravity oil with tubing pressure 975 pounds and casing pressure 1,575 pounds. It is flowing from 53 feet of Marginulina sand bottomed at a plugged back depth of 6,058 feet. Sun Oil Co. is moving in material for No. 2 Paggi, located 1,400 feet west of the most easterly line of the lease and 491 feet from the north line of the lease in the J. W. Kirby Survey. It is a south offset to the discovery well and due north of the company's No. 1 Paggi, which was abandoned at 7,277 feet. Practically all of the acreage on the prospect is controlled by Shell Petroleum Corp. and Sun Oil Co. and trading in the area has been confined to royalty.

Failure at Lockridge

Gulf Oil Corp.'s first attempt for production at the Lockridge prospect, Brazoria County, proved a failure and the hole is being plugged back for another test. No. 1 Fairfield is bottomed in a sidetracked hole at 8,586 feet and was tested through perforated casing from 8,576-86 feet which resulted in a flow of salt water. Several months ago No. 1 Fairfield was tested in its original hole in sand bottomed at 6,274 feet, and it flowed approximately 4 bbls. of distillate an hour.

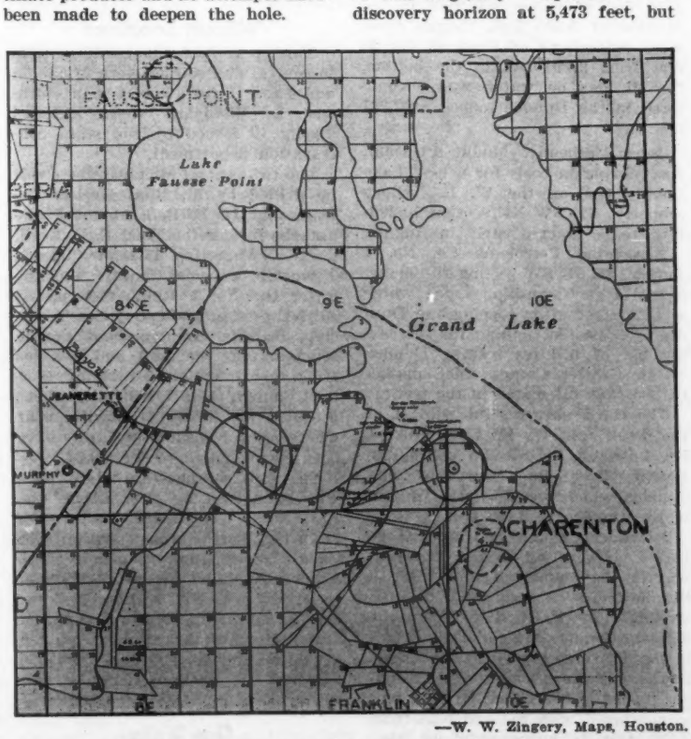
In the northern part of the Anahuac field, Gulf Oil Corp. No. 3 Knowles topped sand showing oil at 7,045 feet and on an 8-minute drill-stem test from 7,035-7,100 feet, the total depth, it showed 100 pounds of working pressure and flowed pipeline oil. Casing has been cemented preparatory to testing this week. The interesting feature of the well is that it is a short distance south of a dry hole and is to be completed in the Marginulina sand encountered at approximately 6,757 feet. To the northeast approximately a mile in section 55, H.&T.C. Survey, Humble Oil & Refining Co. No. 1 Boyt, an outpost test, is coring in shale below 7,000 feet with no shows reported.

Southwest of Ellison & McBride No. 1 Bean, in the northern part of Houston, Walter Goldston No. 1 Burns is drilling at 5,265 feet in chalk which was encountered around 5,260 feet. Location is the Juan La Reviere Survey. Ellison & McBride are testing their No. 1 Bean, a distillate producer and no attempts have been made to deepen the hole.

Another wildcat for Wharton County has been announced by the Continental Oil Co., being No. 1 J. F. Weekly in the Joseph Clements Survey. It is situated 519 feet from the north line and 461 feet from the east line of a 37.86-acre tract, northeast of Texas Crusaders Oil Inc. No. 1 fee located in the J. Smith and H. McKenzie Survey, which is rigging up. To the south in Matagorda County, Pierce Estate Inc. No. 1 fee, located in the Wm. Brown Survey, is bottomed in salt water sand at 6,816 feet and is cutting six side wall cores from 2,601-2,626 feet after an electrical coring test showed 8 to 9 ohms and 80 millivolts in sand from 2,601-26, and 3,338-65 feet.

Between the Port Lavaca field and the Seadrift prospect, Calhoun County, Benedum & Trees are moving in material for an 8,000-foot wildcat to be drilled on the Roemer estate located in the J. Oggsberry Survey. At the Heyser field, northwestern part of the county, Humble Oil & Refining Co. is building derrick for No. 1-B Welder, a south offset to Blanco Oil Co. No. 1 P. H. Welder in the A. Sisneros Survey. The company's No. 2 Welder, southwest of the discovery well, encountered sand showing oil from 5,497-5,501 feet, the total depth, and a drill stem test was to be made. It was originally completed in the discovery horizon at 5,473 feet, but due to the high gas oil ratio it was deepened.

The recent success attained by operators in drilling the northwest flank of the South Houston field has resulted in it becoming one of the most active fields in the district. There were 4 producers and 4 locations reported the past week. Dick Schwab No. 2 Williams flowed 310 bbls. a day through a quarter-inch choke from a depth of 4,801 feet; Sterling Oil & Refining Co. No. 1 Houston Electric flowed 30 bbls. an hour through a quarter-inch choke from a depth of 4,769 feet. The other wells, completed by Stanolind Oil & Gas Co. were No. 1 Pittman in tract 27 and No. 1 Holder in tract 145.



—W. W. Zingery, Maps, Houston.

Map of the Charenton prospect, St. Mary Parish, showing location of Mike Hogg and others No. 1 Laws Realty Co., which is reported to have encountered sand showing oil at 4,184 feet. The Jeanerette field to the east is indicated by a large circle

Production by Pool

The average daily production of the principal Gulf Coast pools in the week ending July 23 was as follows:

TEXAS COAST

Field—	Dly. Av.
Anahuac	7,394
Barbers Hill	14,312
Conroe	42,515
Hastings	6,732
Manvel	3,425
South Houston	3,787
Thompson	9,847
Tomball	7,529
Greta	15,725
Plymouth	9,422
Saxet Heights	6,175
Saxet	11,839
Miscellaneous	109,097
Total	252,599

LOUISIANA COAST

Bosco	13,347
Caillou Island	14,913
Cameron Meadows	4,787
Gillis	14,884
Iowa	17,635
Leesville	12,232
Roanoke	7,439
Tepetate	4,853
Miscellaneous	59,454
Total	149,544

South Louisiana

The most interesting development along the Louisiana Coast was the reported showing of Mike Hogg and others No. 1 Laws Realty Co., located on the Charenton prospect, northern St. Mary Parish. Details of a drill stem test made in sand bottomed at 4,184 feet are lacking, but it is reported to have shown mud and sand which carried considerable saturation. The well is located about 4½ miles west of the Jeanerette field in section 30-13s-10e.

Superior Oil Producing Co. has made location for a test on the south flank of the Jennings field in Acadia Parish. The company has acquired leases on three tracts totaling 172 acres and the well is to be drilled on the G. Leckelt lease located 330 feet west of the east line and 1,000 feet north of the south line of lease in section 42-9s-2w. Production recently was opened in this area by Shell Petroleum Corp. No. 1 Connover Community.

Southwest of production in the

(Continued on Page 211)

Michigan Field Report

By PAUL A. ELLIOTT

ANOTHER POOL IN MONTCALM COUNTY; WILDCAT FAILURES

MUSKEGON, Mich., July 27.—For the second successive week, Michigan operators were aroused to new oil possibilities when a semiwildcat near the original Vickeryville well brought in as a small Dundee producer in the fall of 1935 struck oil in the upper Traverse formation and flowed and swabbed more than 50 bbls. after casing and cleaning out cavings.

The new wildcat producer coming on the heels of what appeared the discovery well of a new Gladwin County field the week before last, divided attention between the two areas during the week when there was comparatively little oil development of importance in other fields, though 10 gassers, all but one in the Tri-Townships field, three "dusters' and two oil producers were completed.

The well was Keith B. Montigel No. 1 Loree, NE SW NW section 18-9n-5w, Bloomer Township, Montcalm County, 2 miles south and half a mile east of Jetter and Lima Oil Corp No. 1 Long, section 1-9n-6w, Bushnell Township, which though tested and produced for more than six months, has failed to develop large production.

The drill unexpectedly struck the pay sands 43 feet in the Traverse limestone at 2,723 feet and filled up about 2,000 feet within a few hours. It flowed over the derrick when drillers started running casing to stop caving.

Since the Traverse has been an erratic producing formation, operators were uncertain whether the new test bore any connection with the Dundee pool sought unsuccessfully in half a dozen tests in every direction from the Jetter-Long well since its completion.

The Loree, in which the Daily Crude Oil Co. and several individuals hold an interest, also is located about a mile southeast of a Pure Oil Co. test which struck a show on the Ward lease in section 20, Bloomer Township, some time ago but was plugged and abandoned when it failed to make commercial production. Further testing of the area, which recently had begun to lose interest because of Dundee failures, was assured for coming months, however, by the new showing.

Goll, Graves, & Mechling, Inc., No. 1 Oard, SW SW SE section 25-18n-1w, the Buckeye Township, Gladwin County, test which the week before swabbed 30 bbls. initially in the Dundee topped at 3,496 feet and drilled to 70 feet in the lime, but later dropped to about 15 bbls. a day, was treated with acid but had not yet been opened for production before the week closed.

First oil was struck at 3,559 feet and pay sands continued to 3,666 feet. This test also is expected to result in an active drilling play during coming months, led by McClanahan Oil Co. and J. V. Wicklund Development Co., already making plans to move in. No tests previously have been drilled within several miles in any direction, leaving the area open for considerable testing.

Field tanks have been erected at both tests and the Simrall Pipe Line Corp. has prepared to take crude from the Oard well.

Gordon Oil Co. was reported ready to spud in a wildcat on the Barnes lease, NW NW NW section 22-20n-1w, Butman Township, Gladwin County, about 15 miles north of the Oard. M. F. Whitehill No. 2 Welker, SE NW SW section 2-17n-2w, Beaverton Township, was nearing completion in the Dundee in the proved Gladwin field.

Other Wildcats

Other wildcat drilling last week resulted in three dry holes, one in Newkirk Township, Lake County, in West Michigan, one in New Haven Township, Gratiot County, central Michigan, and the other in Montcalm Township and County, one of the several Montcalm wildcats started by the Jetter-Long's success.

Charles W. Teater No. 1 McCabe estate, NE SW SW section 26-20n-12w, Newkirk Township, struck a hole full of water 100 feet in the Monroe at 3,500 feet, though there were indications of dead oil for 60 feet from 3,440 feet to the bottom. No oil, gas or water was encountered in the Dundee topped at 3,287 feet.

John Metheany, Mount Pleasant, was moving in tools for a new Lake County test on the W. L. Kellogg property, NE SW NE section 10-20n-11w, to be started early in August.

Associated Petroleum Co. No. 1 Yutzey, SE SE SW section 26-10n-4w, New Haven Township, struck water at 3,223 feet after topping the Dundee at 3,184 feet joining the increasing list of failures seeking Dundee oil in Gratiot County. McClanahan Oil Co. was interested in the test.

The third unsuccessful wildcat of the week was W. E. Vass, trustee, No. 1 Bristol, SE SE NW section 23-10n-8w, Montcalm Township and County, which struck water 67 feet in the Dundee at 3,256 feet.

A wildcat which two weeks ago had a show of oil in the Traverse, was in the Dundee, namely: W. J. Bernier No. 1 Fitzgerald, NW NW SE section 9-12n-9w, Deerfield Township, Mecosta County. After a show 63 feet in the Traverse topped at 2,987 feet, it was shut down 26 feet in the Dundee topped at 3,474 feet. Drilling will be continued with reduced hole from 3,500 feet if unsuccessful at that depth.

F. V. McCollister No. 1 Joass, SE NE SE section 8-15n-10w, Big Rapids Township, Mecosta County, reported a show in the Traverse but was held up with a fishing job below 2,700 feet.

Oil Finders, Inc., No. 1 Stahl, NW NW NW section 28-11n-2w, an Emerson Township, Gratiot County, wildcat, was drilling at about the same depth and in the Traverse lime with no show reported.

Trenton Oil Producing Co. No. 1 Stone, SE SE SE section 24-7s-6e, Summerfield Township, Monroe County, was completing at nearly 2,100 feet in southeastern Michigan.

Teater No. 1 Nevins, NW NW NE section 18-32n-6e, Long Rapids Township, Alpena County, a test started with 20-inch drive pipe to drill to the Clinton, Medina, Niagara and Trenton, was about 2,850 feet deep after going through more than 800 feet of salt in the Salina.

Michigan Oil Exploration Co. No. 1 Croff, NE SW NW section 35-7n-9w, Vergennes Township, Kent County, another deep test, was drilling below 4,000 feet after failure in the Dundee and Monroe.

Terry Dale Michigan Corp. No. 1 Tew, SW SW NE section 12-6n-7w, Berlin Township, Ionia County, had reached a depth of more than 3,800 feet after failure in the Dundee and was being carried down to test lower formations.

Wildcat Locations

Three permits for new wildcat tests in central and southeastern Michigan and a fourth for a core test in southeastern Michigan, were included among 19 issued by the state conservation department.

The two central Michigan tests will be drilled by M. Bliss Keeler, Detroit, and H. E. Bell, Mount Pleasant, the former the No. 1 F. F. Beall, C NE NW section 17-18n-9w, Cedar Township, Osceola County, and the latter the No. 1 Ralph Nelson, SE SE NE section 16-13n-3w, Coe Township, Isabella County, about a mile southeast of Shepherd and 6 miles from the Greendale Township, Midland County, field. The Beall is about 5 miles northwest of Evart, near where several unsuccessful tests have been completed in recent years.

The two southeastern state tests will be drilled by the M.D.O. Co., Inc., No. 1 fee, NE SE SW section 33-7n-17e, Port Huron Township, St. Clair County, and the core test, Kinnekenik Land Co. No. 1 William Neer, SE SW SW section 29-6n-9e, Hadley Township, Lapeer County.

Meredith Oil Co. also has started a wildcat, the No. 1 George Diebolds, SE SW SW section 17-21n-1e, Edwards Township, Ogemaw County.

Gas Wells

Most valuable completions of the past week, as true virtually since the first of the year, were the 10 gas wells drilled into the Michigan Stray sands for aggregate open flow capacity of about 225,000,000 feet daily.

Seven of the 10 were finished in Belvidere Township, Montcalm County, two others in Millbrook and Hinton Township areas of the same Tri-Townships field, and one in New Haven Township, Gratiot County.

An interesting flow of about 500,000 feet daily was encountered in the Sherrit Oil & Gas Corp. No. 1 Otterbein, C SE NW section 13-15n-7w, Sheridan Township, Mecosta County, which was to be drilled deeper.

Wiser Oil Co. No. 1 Lee Townsend, C NW NW section 10-10n-4w, extended the New Haven Township gas field near the Crystal oil field one diagonal offset to the southeast when it blew in with an open flow of more than 1,000,000 feet daily at a total depth of 980 feet. Stray sand was first encountered at 955 feet. It was the eighth completion in the field.

Nine gassers in Tri-Townships field ranged from 1,500,000 to 53,000,000 feet open flow averaging about 25,000,000 feet daily.

Largest of the new wells was Hyatt & Norton No. 1 R. Wilson, C SW NE section 9-12n-7w, Belvidere Township, which made 53,000,000 feet when drilled 41 feet into the Michigan sands topped at 1,264 feet.

Superior Drilling & Producing Co. No. 1 Vern Wood, in the same section, C NW NW section 9, was gauged flowing 46,500,000 feet when completed at 1,320 feet. Fletcher & Leman No. 1 Orr estate, C NW SE section 9, was rated 35,800,000 feet when drilled 32 feet in the Michigan Stray sand topped at 1,243 feet.

Superior Drilling Co. also completed No. 1 Bellows estate, C SW SW section 10, same township, for a comparatively large potential of 21,500,000 feet at 1,254 feet, about 24 feet in the shallow gas sands.

Hyatt & Norton also completed No. 2 Dawes, C NE NE section 8, Belvidere, for an open flow capacity of 11,500,000 feet daily, while Ide & Glavin No. 1 John Johnson, C NE SW section 9, was the smallest of four in the section gauging 7,500,000 feet at 1,299 feet.

The smallest well making commercial production in Tri-Townships field for some time was Refiners Petroleum Corp. No. 1 Carl and A. Mauterstock, C SW SE section 11, Belvidere Township, gauging 1,500,000 feet a day.

Superior Drilling & Producing Co. No. 1 Peterson and Adell, C SE SW section 12, Belvidere, was completing in the Michigan sand.

Ide & Glavin also completed No. 2 Schuberg, C NE NW section 32-13n-7w, Millbrook Township, Mecosta

(Continued on Page 211)

Rocky Mountain Area

NEW MONUMENT WELL HAS 4,632 BBLS. NATURAL FLOW

By
T. R. INGRAM

DENVER, Colo., July 27.—The Royal Dutch-Shell interests are again entering the Rocky Mountain area. The Continental Oil Co.'s Buckingham test in northeastern Colorado had water in the Dakota. Indian Territory Illuminating Oil Co. is reported gathering more leases around the two wildcats it is drilling in eastern Colorado.

Operators on government land in the Rocky Mountain area met at Casper and made protest against restrictive measures in the O'Mahoney-Greever act. The California Exploration Co. abandoned its offset to the discovery well on the Waugh dome in Hot Springs County. Location is released for a 9,000-foot test in Laramie County by the Amerada Petroleum Corp. The Continental Oil Co. No. 2 Apex-3, in Lance Creek, increased flow from 935 to 1,500 bbls. daily. One 10-bbl. well and one dry hole were completed in Osage.

Operators in the northern Montana fields met at Shelby to form a producing and marketing code. Cut Bank completions were reduced to two with an equal number of new operations.

Continental Oil Co. completed a flowing well at 779 feet on the Rattlesnake dome in northwestern New Mexico, making 104 bbls. in 19 hours.

NEW MEXICO

The largest of eight producers completed in the Monument field of southeastern New Mexico was the Anderson-Prichard Oil Co. No. 4 Britt, C NW NE section 7-20-37. It had a natural flow of 4,632 bbls. of oil, with 2,880,000 feet of gas, in 24 hours after stopping at 3,877 feet, total depth. Top of oil pay was 3,811 feet. Shell Petroleum Corp. No. 1 State "F," C NE SE section 29-19-37, had pay at 3,790 to 3,943 feet, total depth, and after acidizing flowed 120 bbls. of oil in 24 hours through tubing choke. Same operators No. 1 Cooper, NW NW NE section 4-20-37, flowed 3,930 bbls. of oil after acidizing with 2,000 gallons. Gas gauged 2,732,000 feet. It had pay at 3,865-3,903 feet, total depth.

Gulf Oil Corp. No. 1 Phillips, NW NW NE section 31-19-37, topped pay formation at 3,797 feet, drilled to 3,915 feet, total depth, and acidized with 5,000 gallons. After treatment, it flowed 1,776 bbls. of oil in 24 hours. Same operators No. 2 Mathews, C NW SE section 6-20-37, flowed 312 bbls. of oil through tubing and produced 1,403,000 feet of gas in the first 24 hours after acidizing. It had pay at 3,810-85 feet, total depth. Tide Water Oil Co. No. 1 State "H," C NW SW section 32-19-37, topped pay at 3,835 feet; total depth 3,906 feet. It flowed 648 bbls. of oil through 1-inch tubing choke the first 24 hours after acid treatment.

Amerada Petroleum Corp. No. 2 State "S," C SW SW section 2-20-36, flowed 1,224 bbls. of oil naturally through 1-inch tubing choke in 24 hours and was completed at 3,920 feet, total depth. Top of pay was 3,800 feet. Gas gauged 1,180,000 feet. Same operators No. 1 Gaither, C NE SE section 34-19-36, topped the producing formation at 3,848 feet, had best pay at 3,877 to 3,931 feet and was bottomed at 3,950 feet. It was acidized and flowed 1,920 bbls. through tubing in 24 hours, with 1,280,000 feet of gas.

Two producers were completed in the Eunice field. Continental Oil Co. No. 1-D-15 State, C SE NE section 15-21-36, had a natural flow of 1,440 bbls. of oil through three-fourths inch tubing choke in 24 hours, with gas gauging 2,700,000 feet. It had pay at 3,718-3,885 feet, total depth. Atlantic Oil Producing Co. No. 1 State "L," C SW NW section 11-21-36, topped pay at 3,836 feet, drilled to 3,877 feet, total depth, and flowed 264 bbls. of oil naturally through tubing. Gas measured 250,000 feet.

In the Sims area, Magnolia Petroleum Co. No. 1 Cary, C NE SE section 21-22-37, was shot with 180 quarts at 3,490 to 3,550 feet and flowed 45 bbls. of oil through tubing in the first 24 hours after shot. Gas gauged 175,000 feet. Pay was had at 3,485-3,550 feet, total depth.

In the Jal area, Gulf Oil Corp. No. 2 Humphreys, C NE NW section 25-25-36, was completed at 3,350 feet, total depth, in pay topped at 3,323 feet. It flowed 44 bbls. of oil naturally and 225 bbls. of water through casing in 12 hours.

Byrd-Frost, Inc., No. 1-A-1 Wells, C NW SW section 1-25-36, wildcat between the Jal and Cooper pools, was completed as a producer at 3,462 feet, total depth, in pay topped at 3,358 feet. It had a natural flow of 100 bbls. of oil and 1,200 bbls. of water through tubing flow valves in 24 hours. Gas was estimated at 1,000,000 feet.

Lea County—Miscellaneous

Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. Drlg. 3,765 ft.; flows 15 bbls.; head every 3 hrs.

Rowan et al No. 1 Mattern, C SW SE sec. 7-22-37. T.D. 3,727 ft.; recmtd. 6⅝-in. csg. at 3,414 ft.

C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. Wildcat; T.D. 4,075 ft.; flowed 48 bbls. in 24 hrs.; testing.

Gulf Oil Corp. No. 1 L. M. Buffington, C NW SW sec. 13-25-37. T.D. 3,063 ft.; rigging up rotary.

Sun Oil Co. No. 1 Lanehart, C SE SE sec. 20-25-37. Drlg. 2,792 ft.

Magnolia Pet. Co. No. 1 E. O. Carson, C NW SW sec. 28-21-37. T.D. 3,775 ft.; cleaning out.

Skelly Oil Co. No. 1 Stuart, C NE NW sec. 15-25-37. Drlg. 3,330 ft.

Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 1,640 ft.; S.D. for rain.

Texas Co. No. 1 E. Fanning, C SE NE sec. 4-24-7. T.D. 3,500 ft.; S.D. for fuel.

Jal Natural Gas Co. No. 1 Bates, C NW SW sec. 20-25-37. Drlg. 2,100 ft.

Harry Leonard No. 2 Lanehart, C SE NW sec. 21-25-37. T.D. 2,913 ft.; testing.

Culberson & Irwin No. 1 Eaves, C SW NW sec. 18-21-33. Drlg. 2,840 ft.

Humble O. & R. Co. No. 1 B. E. Boyd, C NW SE sec. 35-22-37. Drlg. 2,560 ft.

Argo Royalty Co. No. 1 Lanehart, SW SE NE sec. 21-25-37. Rigging up standard tools.

Magnolia Pet. Co. No. 1 Scharbauer-Edison, C NW NE sec. 29-16-35. Drlg. 400 ft.

Plains Prod. Co. No. 1 Knight, C NE SE sec. 21-24-37. Drlg. 1,075 ft.

Plains Prod. Co. and Culberson & Irwin No. 2 Knight, C NE SW sec. 14-24-32. Cellar and pits.

Plains Prod. Co. and Culberson & Irwin No. 1 Williams, C SW NE sec. 34-24-37. Drlg. 1,305 ft.

Republic Prod. Co. No. 2 Crosby, NW NW SW sec. 28-25-37. Loc.

Oilwell Drlg. Co. et al No. 1 L. L. Clardy, C SE SE sec. 13-16-36. Wildcat; drlg. 400 ft.

Emperor Oil Co. No. 1 State, C SW SW sec. 5-21-35. Drlg. 265 ft.

Humble O. & R. Co. No. 3 State-Aggies, C NW NW sec. 31-20-37. Wildcat; T.D. 1,115 ft.; P.B. to 500 ft.; to straighten hole.

Continental Oil Co. No. 3-A-24 McCallister, C SE SE sec. 24-26-36. Bldg. rig.

Gulf Oil Corp. No. 1 Carr, C NW SW sec. 3-24-37. Drlg. 3,756 ft.

Hobbs Area

National Securities Oil Corp. No. 1 Linam, NE SE SW sec. 33-18-37; wildcat. Old well P.B. from 4,238 to 4,228 ft.; swbd. sulfur wtr.; no oil; S.D. for orders.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,497 ft.; flowed 82 bbls. oil in 24 hrs., 200 bbls. water per hour; P.B. to 3,445 ft.; drlg. plug.

Skelly Oil Co. No. 5 Coates, C NE SE sec. 3-24-36. T.D. 3,620 ft.; swbg. and testing.

Southern Oil Corp. No. 2-A-15 Vaughan, C NW SE sec. 15-24-36. Loc.

Eunice Area

Gulf Oil Corp. No. 8 Bell-Ramsey-State, C NW NW sec. 4-21-36. T.D. 3,890 ft.; flowed 88 bbls. fluid in 24 hrs.; gas est. 5,136,000 ft.; testing.

Empire G. & F. Co. No. 1 State "D," C SE NE sec. 32-21-36, ⅝ mi. N part of No. 157 lse. T.D. 3,941 ft.; cleaning out 3,880 ft.

General Crude Oil Co. No. 2 State "E," C NE SW sec. 32-21-36. T.D. 4,000 ft.; flowed 25 bbls. oil, 15 bbls. wtr. in 24 hrs.; S.D. for orders.

Continental Oil Co. No. 11-B-4 Meyer, C SE SE sec. 4-21-36. Drlg. 1,570 ft.

Samedan Oil Co. No. 1 Marshall, C SW NW sec. 12-21-36. T.D. 3,861 ft.; acidized and waiting.

Devonian Oil Co. No. 5 State-Heasley, C NW SW sec. 5-21-36. Drlg. 2,435 ft.

Devonian Oil Co. No. 6 State-Heasley, C NE SW sec. 5-21-36. Loc.

Gulf Oil Corp. No. 2 Collins, C NE NW sec. 14-21-36. T.D. 1,430 ft.; plugged back to 360 ft.; drlg. plug.

Humble O. & R. Co. No. 2 State-Aggies, C SW SW sec. 31-20-37. Cellar.

Gulf Oil Corp. No. 10 Bell-Ramsey-State, C NW SW sec. 4-21-36. Drlg. 3,730 ft.

Atlantic Oil Prod. Co. No. 2 State "K," C NE SW sec. 6-21-36. Drlg. 3,820 ft.

Gulf Oil Corp. No. 3 Houston, C SW SE sec. 7-21-36. Drlg. 3,190 ft.

Gulf Oil Corp. No. 1 Campbell, C SE SW sec. 7-21-36. Drlg. 3,320 ft.

Humble O. & R. Co. No. 6 Adkins, C NW NW sec. 10-21-36. Drlg. 3,800 ft.

Mid-Continent Pet. Corp. No. 1 Marshall, SW SE SE sec. 11-21-36. T.D. 3,858 ft.; flowed 40 bbls. per hour for 2 hrs. after acidizing.

Gulf Oil Corp. No. 3 Collins, C SW NE sec. 14-21-36. Drk.

Gulf Oil Corp. No. 3 Bell-State "C," C NE NW sec. 15-21-36. Rig.

Gulf Oil Corp. No. 2 Janda "C," C SW SW sec. 15-21-36. T.D. 3,904 ft.

Gulf Oil Corp. No. 8 Arnott-Ramsey "C," C SW SE sec. 21-21-36. T.D. 3,582 ft.; drill pipe stuck.

Skelly Oil Co. and Humble O. & R. Co. No. 1 Adkins, C NE NW sec. 10-21-36. T.D. 2,836 ft.; S.D. for repairs.

Continental Oil Co. No. 2-B-14 Lockhart, C NW NW sec. 14-21-36. Drlg. 1,873 ft.

Gulf Oil Corp. No. 5 Orcutt, C NW NW sec. 5-21-36. Bldg. rig.

Shell Pet. Corp. No. 2 State "E," C NW NE sec. 6-21-36. Drlg. 1,907 ft.

Atlantic Oil Prod. Co. No. 2 State "L," C SE NW sec. 22-21-36. Drlg. 1,470 ft.

Atlantic Oil Prod. Co. and Tide Water Oil Co. No. 1 H. L. Houston, NE NW NW sec. 7-21-36. Drlg. 3,195 ft.

Gulf Oil Corp. No. 9 Arnott-Ramsey "C," C NE NE sec. 21-21-36. T.D. 308 ft.; set 10¾-in. csg.

Landreth Prod. Co. No. 1 State "D," C NW NW sec. 22-21-36. T.D. 1,481 ft.; set 9⅝-in. csg.

Continental Oil Co. No. 2-D-15 State, C NW NE sec. 15-21-36. Drlg. 420 ft.

Humble O. & R. Co. No. 3 Knox, C SE NE sec. 10-21-36. T.D. 2,159 ft.; S.D. for repairs.

Empire O. & R. Co. No. 2 Closson "A," C NE SE sec. 6-22-36. T.D. 270 ft.; set 12½-in. csg.

Continental Oil Co. No. 13-B-4 Meyer, C NW NE sec. 4-21-36. T.D. 312 ft.; set 10¾-in. csg.

Continental Oil Co. No. 14-B-4 Meyer, C SW SE sec. 4-21-36. T.D. 314 ft.; set 10¾-in. csg.

Gulf Oil Corp. No. 1 H. Leonard, C NW SW sec. 22-21-36. Drk.

Monument Area

Anderson-Prichard Oil Corp. No. 3 Britt, SE SW NE sec. 7-20-37. T.D. 3,885 ft.; testing.

Anderson-Prichard Oil Corp. No. 2 Britt "A," C NE SW sec. 6-20-37. Rigging up rotary.

Skelly Oil Co. No. 1 State "E," C SE NE sec. 29-19-37. T.D. 3,960 ft.; acidized; flowed and swabbed 125 bbls. in 8 hrs.; testing.

Gulf Oil Corp. No. 1 Ketter, C SW SE sec. 20-19-37. Derrick.

Tide Water Oil Co. No. 2 State "F," C NE NW sec. 20-19-37. T.D. 4,026 ft.; after acidizing flowed 65 bbls. in 8 hrs.

Texas Co. No. 3 State-Aggies, NE cor. sec. 20-20-37. T.D. 3,498 ft.; fishing.

Gulf Oil Corp. No. 5 Graham-State "C," C NW NE sec. 25-19-36. T.D. 1,312 ft.; set 7⅝-in. csg.

Continental Oil Co. No. 1-A-17 State, C SW SW sec. 17-19-37. T.D. 4,011 ft.; flowed est. 12 bbls. oil per hour for 20 hrs.

Amerada Pet. Corp. No. 1 Phillips "A," SW SW NE sec. 31-19-37. T.D. 2,549 ft.; set 8⅝-in. csg.

Amerada Pet. Corp. No. 1 State "U," C SW NW sec. 32-19-37. Bldg. derrick.

Sun Oil Co. No. 2 State, C SE NE sec. 25-19-36. Drlg. 1,710 ft.

Ohio Oil Co. No. 1 Barber, C SW SW sec. 32-19-37. T.D. 1,185 ft.; set csg.; waiting.

Shell Pet. Corp. No. 1 State "G," SW cor. sec. 16-20-37. T.D. 160 ft.; set 12½-in. csg.

Skelly Oil Co. No. 1 State "F," SE cor. sec. 17-20-37. T.D. 247 ft.; set 12½-in. csg.

Shell Pet. Corp. No. 3 State "B," C NE NW sec. 36-19-36. Drlg. 2,185 ft.

Texas Co. No. 1 J. W. Cooper, C NW NE sec. 5-20-37. Drlg. 1,200 ft.

Amerada Pet. Corp. No. 2 State "T," C NE SW sec. 25-19-36. Drlg. 2,176 ft.

Texas Co. No. 1 Weir, C SW NW sec. 25-19-36. T.D. 1,250 ft.; set 9⅝-in. csg.

Amerada Pet. Corp. No. 1 State "V," NE cor. sec. 36-19-36. Drlg. 1,530 ft.

Continental Oil Co. No. 3-A-3 Reed, C NE SE sec. 3-20-36. Drlg. 250 ft.

Oilwell Drlg. Co. No. 1 Klingsmith, C SE SE sec. 20-19-37. Drlg. 1,440 ft.

Texas Co. No. 3 Mattern, C SE SW sec. 20-19-37. Rigging up rotary.

Ohio Oil Co. No. 2 Barber, C NE NW sec. 5-20-37. T.D. 1,180 ft.; set 9⅝-in. csg.

Gulf Oil Corp. No. 2 Phillips, C NE NE sec. 31-19-37. Derrick.

Tide Water Oil Co. No. 2 State "H," C NE SW sec. 32-19-37. Rig up.

Gulf Oil Corp. No. 3 Mathews, C SE SE sec. 6-20-37. Derrick.

Tide Water Oil Co. No. 1 Anderson, C NW SE sec. 8-20-37. Bldg. rig.

Gulf Oil Corp. No. 6 Graham-State "C," C SW SE sec. 25-19-36. Moving in material.

Gulf Oil Corp. No. 1 L. M. Martin, C NE SE sec. 25-19-36. Moving in derrick.

Amerada Pet. Corp. No. 6 Weir, C NE NW sec. 35-19-36. T.D. 195 ft.; set 12½-in. csg.

Amerada Pet. Corp. No. 2 State "V," C NW NE sec. 36-19-36. Cellar.

Continental Oil Corp. No. 1-A-11 Sanderson Permit, C NE SE sec. 11-20-36. Preparing to spud.

Amerada Pet. Corp. No. 2 State "U," C NW NW sec. 32-19-37. Loc.

Sims Area

Skelly Oil Co. No. 1 Ella Simms, C NW

SE sec. 3-23-37. T.D. 3,538 ft.; flowed 373 bbls. in 24 hrs.
Humble O. & R. Co. No. 1 W. B. Farrell, C SW SE sec. 22-22-37. T.D. 3,705 ft.; cleaning out at 3,684 ft.
Tide Water Oil Co. No. 1 A. Waldon, C SE NE sec. 21-22-37. T.D. 3,620 ft.; testing.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.
Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. Location.
Continental Oil Co. No. 1-A-21 Elliott, C SE SE sec. 21-22-7. Cellar and pits.
Skelly Oil Co. No. 2 J. V. Baker, C NW NW sec. 27-22-37. T.D. 3,596 ft.; flowed 332 bbls. in 24 hrs.; testing.
Gulf Oil Corp. No. 1 F. C. King, C SW NW sec. 5-23-37. T.D. 3,699 ft.; S.D.
Penrose & Rowan No. 4 Cary, C SW NW sec. 22-22-37. T.D. 3,396 ft.; S.D. for repairs.
Samedan Oil Co. No. 1 Hughes, C NE SW sec. 4-23-37. Drlg. 545 ft.
Ohio Oil Co. No. 1 Walden, C NE NE sec. 21-22-37. Drlg. 235 ft.
Skelly Oil Co. No. 2 Ella Simms, C SW SE sec. 3-23-37. Cellar and pits.

Eddy County

Etz Bros. No. 2 State, C NW SW NE sec. 16-17-30. Drlg. 3,276 ft.; flowed and swabbed 50-60 bbls. per day; to acidize.
Tignor, Etz & Keys No. 4 Keys "A," C SW SE sec. 10-17-28. Drlg. 1,775 ft.
Grayburg Oil Co. No. 7 Burch, C NW NE sec. 19-17-30. Drlg. 2,480 ft.
Carper et al No. 1 Gissler "B," NW NE NW sec. 23-17-30. T.D. 1,700 ft.; S.D. for repairs.
Hammond et al No. 1 State, SW SE SW sec. 16-17-28. Rigging up machine.
Pecos Valley Gas Co. No. 1 Andrews-State, C SW SW sec. 2-17-28. Drlg. 880 ft.
Republic Prod. Co. No. 6 Russell, SW NE NW sec. 18-17-31. Location.
Flynn, Welch & Yates No. 74 State, C S½ NE SW sec. 27-18-28. Drlg. 672 ft.
D. & B. Oil Co. No. 2 Berry, NW SE NW sec. 20-17-30. Rigging up machine.

Harding County

Kahay No. 1 Dae Daca, C sec. 19-20n-31e. T.D. 1,511 ft.; setting 5 3/16-in. csg.
Clyde B. Neill No. 1 Foster, C NW SW sec. 27-21-30. Drlg. 700 ft.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 1,051 ft. in broken lime; S.D.

Chaves County

Comanche Drlg. Co. No. 2 Sloop & Purcell, C NE NE sec. 15-11-26. T.D. 1,105 ft.; standardizing.

McKinley County

Claude Walker No. 2 fee, sec. 20-20n-9w. Drlg. at 100 ft.

Roosevelt County

Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Moving in material.

San Juan County

Continental Oil Co. No. 55 Rattlesnake, NE SE NE sec. 2-29n-19w. Spudded.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e. Drlg. 1,800 ft.

Guadalupe County

Anton Chico Dev. Co. No. 2 fee, NW NE SW sec. 20-9n-17e. S.D. 1,000 ft.
Ralph Knight et al No. 1 Anton Chico, SW sec. 33-9n-16e. Loc. reported abd.

McKinley County

Forth & Hickerson No. 3 Santa Fe NW NW NE section 29-20n-9w, which is also a first report, was completed in sand at 430-438 feet for 25 bbls. a day on the pump. The 6¼-inch is at 425 feet.

Claude Walker No. 2 Santa Fe, SW SE SE sec. 20-20n-9w. Drlg. 200 ft. (first report).
Al Gibbons No. 1 fee, SW SW SW sec. 22-20n-9w. T.D. 550 ft.; water in sand.
S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,490 ft.; rmg. at 900 ft.
Foster & Clark No. 1 R. R. land, NE NE NW sec. 29-20n-9w. Drlg. 175 ft. in new hole.
Red Mountain O. & G. Co. No. 1 State, NE NE SW sec. 21-20n-9w. Drlg. 175 ft.

Rio Arriba County

Larrazola & Turner No. 1 Gonzales, SE SW SE sec. 24-32n-1e. Rig moved away.

San Juan County

Continental Oil Co. No. 55 Tribal, NE SE NE section 2-29n-19w, Rattlesnake pool, was completed as a flowing well at 779 feet. It made 104 bbls. of oil and no water in 19 hours. Top of sand at 728 feet.

Jack Amenda No. 3 Hart, SW NW SW section 25-30n-12w, was abandoned at 1,300 feet. It had water at 1,280 feet.

Al Greer No. 1 Thompson, SE SE SW section 10-30n-11w, Aztec district, was abandoned at 437 feet.

Atchison & Galloway No. 1 Patd., C SE SE sec. 19-29n-11w. Drlg. 300 ft. in sh.
W. L. Hair No. 1 Hair, NE NW NE sec. 23-29n-11w. S.D. 900 ft.
Kutz Canon O. & G. Co. No. 1 Day, SW SW SW sec. 20-28-10w. T.D. 4,400 ft.; pulled 4½-in.; C.O. 3,900 ft.

Torrance County

45 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e. Drlg. 2,050 ft. in green L.

Valencia County

Western Natural Resources Corp., Inc., No. 2, SE SE NW section 5-6n-1e, San Clemente grant, was abandoned at 6,001 feet. It had made no new hole for more than a year. Reported abandoned in the Dakota.

COLORADO

The Royal Dutch-Shell through Shell Oil Co. of California has established headquarters for Wyoming at Casper with E. K. Craig, geologist, in charge. F. E. Vaughn heads the Denver office; Alex Clark has been placed in charge in northern Montana with headquarters at Cut Bank, and Less Clark at Billings. These geologists will be under the supervision of E. G. Robinson, Shell geologist at Los Angeles, supervisor of the Rocky Mountain activities. The Shell interests were in this area several years ago through the Matador Petroleum Corp. and assembled extensive acreage and did some drilling. At one time it had the Wellington structure in northern Colorado which subsequently was proven in a wildcat drilled by the Union Oil Co. of California.

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66. Drlg. 1,800 ft. in hd. L. and shells.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. Cmtd. caves to bottom at 4,262 ft.; W.O. 6¼-in.

Archuleta County

William E. Hughes estate No. 8 Gramps, sec. 24-33n-2e (unsurveyed). T.D. 800 ft.; capped.
William E. Hughes estate No. 9 Gramps, sec. 24-33n-2e (unsurveyed). Drlg. 1,000 ft.
Carl D. Linstrom No. 1 Crowley, SE SE SE sec. 3-22n-2e. R.U.
Maryott Drlg. Co. No. 1 Hollywood, SE SE SE sec. 15-34n-1w. Spd. June 24; test on 3,000-ac. blk. in Catchpole district.
Oil City Pet. Co. No. 1-A Garrett, NW NE NW sec. 25-33n-2e. S.D. 1,515 ft.; top Dakota series 1,415 ft.
Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW), sec. 24-33n-2e. Drlg. 1,160 ft.
H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. Drlg. 1,167 ft.; will U.R. 6¼-in. for W.S.O.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovett, NW NW NW sec. 24-32s-48w. Lost circulation at 2,100 ft.

Boulder County

The Boulder Producing & Development Co.'s No. 2 Maxwell, in the foothills west of the old Boulder field, spudded July 16 with old-fashioned ceremonies, a number of Boulder business men and bankers being present. Mrs. Ella H. Steele, mother of Leslie R. Steele, christened the well by breaking a bottle of oil against the derrick and the guests contributed pennies, sales tax tokens and rabbit feet, which were dropped into the hole to bring good luck. This well is being drilled to further test out some new theories as to the geology of the Boulder field worked out principally by J. A. Warren, vice president and treasurer of the Kinney-Coastal Oil Co., and associates and which gave encouraging evidence of its correctness in the first test which came in as a small producer in the Muddy at around 1,100 feet.

Boulder Prod. Dev. Co. No. 2 Maxwell, SW SW NE sec. 24-1n-71. Drlg. 130 ft.

Costilla County

L. R. Lane No. 2, sec. 25-31s-74. S.D. 500 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. Drlg. and U.R. at 2,375 ft.

Jefferson County

Ruby Hill O. & G. Co. No. 1 Braden, SE SE SE sec. 24-4s-6w. S.D. 4,475 ft.; to finance.

Larimer County

Continental Oil Co. No. 8 Buckeye-U. P., C NE SW sec. 31-10n-68. Stdg. at 3,713 ft. after cmtg. to restore circulation.

La Plata County

McGarr Pet. Co. No. 1 Pinton-Mesa, CSL NE NE sec. 34-35n-12w. S.D. 3,500 ft. for 6¼-in.

Las Animas County

Mountain State Oil Corp No. 1 Nikola, C NE SE sec. 10-34n-62w. S.D. 1,813 ft.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17s-62. T.D. 2,050 ft.; fsg. bailer; bottomed in sd. in Morrison; 1,000 ft. water; S.G. at 1,904 ft. forced bailer 75 ft. up from bottom where it stuck.

Moffat County

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. Drlg. 390 ft.; cmtd. surf. pipe at 200 ft.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. T.D. 2,495 ft.; U.R. 4½-in. at 2,475 ft.
Texas Co. No. 3 Iles Inv. Co., 200 ft. E of W line, and 165 ft. S of N line, Lot 4, sec. 23-4s-92. T.D. 3,550 ft.; cmtd. 6⅝-in. at 3,532 ft. in top Sundance.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. Drlg. 1,460 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w. T.D. 3,960 ft. in upper Penn L.; showing 1 bbl. oil per day; acid. 600 gals.; C.O.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Rig completed.
South Park Oil Co. No. 1 LeBert, NE NE NW sec. 21-11n-75w. Drlg. 550 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 4,586 ft.; landed 4½-in. at 4,530 ft.; C.O. to lower to bottom.

Routt County

Mid-Colo. Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,910 ft.; renewing leases before drlg. into Sundance.

Washington County

I.T.I.O.-Carter-Foster Minerals Corp. No. 1 Vorce, C NE NE sec. 28-1s-49. Drlg. 4,460 ft. in r.b.

Weld County

The Continental Oil Co. No. 1 State Bank of Trenton, an important wildcat in the Buckingham area, was unable to get a drill-stem test in the Muddy at 6,605-27 feet, which showed some saturation in the cores, and resumed drilling. It took two cores in the Dakota at 6,695-6,705 feet, the first showing 5 feet of dry sand and the second 5 feet of water sand. It is drilling ahead to the Lakota and Sundance.

Continental Oil Co. No. 2 Briggs, C NE SW sec. 13-6n-61. W.O. rig.
Continental Oil Co. No. 1 State Bank of Trenton, C SW NE sec. 21-8n-59w. Drlg. below 6,705 ft.

Yuma County

The Indian Territory Illuminating Oil Co. No. 1 Strangways, the Beecher Island deep test, is estimated to be drilling at around 5,200 feet. It was shut down several days this week, but whether this was due to reported trouble with gas is not known. The most significant development is that the company is continuing to pick up leases surrounding the Beecher Island block and apparently consolidating its acreage between the DeNova and Hyde blocks in Washington County, where it is reported drilling below 4,400 feet. Some deals for leases were reported at $1 per acre as against 25 cents, the standard for the area in the past. Several weeks ago it is said to have closed for about 15,000 acres between Beecher Island and Hyde. Inasmuch as this increased activity developed after the two tests had reached a considerable depth, it is considered significant.

Indian Territory Ill. Oil Co. No. 1 Strangways, C NW SW sec. 21-2s-43w. Operator not reporting depth; reported drlg. below 5,200 ft.

WYOMING

More than 100 oil men from New Mexico, Colorado, Wyoming and Montana attended the meeting at Casper this week called by operators and permit owners on federal lands to consider their status under the O'Mahoney-Greever act amending the general oil and gas leasing act of February 25, 1920. The amendment was attacked as a brake to future development of the oil industry in the west. Vincent Carter, former congressman from Wyoming, declared the bill is purely a conservation measure and that Harold G. Ickes, secretary of the interior, is a conservationist in the extreme and does not want

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western prospective oil lands developed. Warwick M. Downing, Colorado member of the interstate oil compact, denounced the act of the government in raising the rentals on government land from 25 cents to 50 cents an acre and urged either a protest against the policy or the election of congressmen who stand for a more favorable policy. W. A. Nicholas, representing the New Mexico Oil and Gas Association, pointed out that the federal government is exacting higher royalties than the state or fee owners. Royalties on government land have been raised to almost prohibitive figures.

Steps were taken for the forming of a permanent organization. Members of the resolutions committee are: Vincent Carter, Warwick Downing, W. A. Nicholas, Valentine Kirk of northern Wyoming; Julius Peters, Montana; Robert Conohan, Bill Hogan, Lace Creek; J. A. Henderson, Billings, Mont.; John Kunkle, Cheyenne; Earl Reader, Rock Springs; Ben Smith, Thermopolis, and Tom Weadick, Parco.

R. G. Taylor, of Douglas, was elected chairman of the meeting, and Robert L. Hazlett, editor of the Inland Oil Index, was made secretary.

Albany County

Geo. D. Parkinson et al No. 1 George & Hunt, NW NE SE sec. 5-17-75w. Drlg. 1,610 ft.
California Co. No. 2 Wilson, SW SW SW sec. 18-17n-76. Drlg. 1,620 ft.
Ohio Oil Co. No. 1 Styles, SW cor. sec. 12-15n-75. Cmtd. 10-in. at 72 ft.

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89. Drlg. 720 ft.
Joan Oil Co. No. 1 Howell, Lot 62 (NW SE NE) sec. 32-55n-97. Resuming at 1,190 ft.
Jerome Drumheller No. 2 Govt., NW NE SE sec. 17-49n-91. Drlg. 1,030 ft.
Montana-Wyoming Oil Co. No. 1-X Allen, Lot 52, sec. 18-56n-97w. Cmtd. 8¼-in. at 3,195 ft.
Ohio Oil Co. No. 2 State, NE cor. Lot 38, sec. 36-56n-97. R.U.
Ohio Oil Co. No. 1 Orson Vail, SW NW NE sec. 23-56n-97w. Drlg. 4,077 ft.
Ohio Oil Co. No. 1 Robert Till, C SE SW sec. 24-56n-87w. Cg. 5,367 ft. in Tensleep; top at 5,333 ft.; 7-in. cmtd. 5,260 ft. in top Embar; both horizons saturated.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-87w. T.D. 3,890 ft.; prep. to run 6¼-in.
Peter Evanoff et al No. 1 McAllister, NW NE SE sec. 3-55n-87. T.D. 2,720 ft.; rng. 6¼-in.
Stock Oil Co. No. 1 Yates, CSL SW NE sec. 33-56n-87w. Drlg. 3,628 ft.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 24-56n-97w. Stdg. rigged (cor.).

Campbell County

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74. T.D. 110 ft.; trying to S.O. surf. wtr. in sd.; 1,500 gals. per hour.

Carbon County

The General Petroleum Corp. of California's No. 1 Union Pacific, a wildcat on the Overland dome, which is reported running high, has a good show of oil in the Niobrara shale at 2,903-33 feet and is attempting to make a drill stem test. A cement bridge was set at 3,050-3,100 feet to shutoff heaving shale from the bottom. Attempts to test before bridging were unsuccessful.

Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78. R.U.C.T.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19-83w. T.D. 3,500 ft.; will make D.S. test.
Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w. T.D. 5,586 ft.; good sat. in upper Sundance at 5,508-46 ft.; cmtd. 7-in. 5,503 ft.; W.O.C.
Ohio Oil Co. No. 7 Diamond Cattle, SW SW NW sec. 35-20n-78w. Drlg. 2,929 ft.
Ohio Oil Co. and California Co. No. 3 Union Pacific, C NE SE sec. 23-21n-79w. Drlg. 5,375 ft.
Ohio Oil Co. No. 4 State, SE NE NE sec. 34-20n-78. Drlg. 3,165 fet. in sh.
Ohio Oil Co. No. 2 Dixon SE NE SE sec. 34-20n-78w. R.U. to deepen old well from 3,094 ft. to Sundance.
Sinclair-Wyoming Oil Co. No. 10 Govt., SW SE NW sec. 7-26-89w. Drlg. 1,500 ft.
Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w. S.D.O. 5,464 ft.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. Drlg. 2,590 (cor.) ft., believed through Greenhorn.
J. A. Olson No. 1 Reese, C NE SE sec. 10-32n-65w. M.I.M.

Fremont County

C. E. Nelson No. 1 Enos, Lot 7, sec. 27-3n-1w. Drlg. 856 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. T.D. 2,550 ft.; rng. 4¾-in.
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. Drlg. 4,550 ft.

Hot Springs County

The California Exploration Co. No. 2 Government, NW SW NW section 7-44n-96, on the Waugh dome, was plugged and abandoned at a total depth of 4,245 feet. It topped the Embar at 3,890 feet and the Tensleep at 4,177 feet. It showed some saturation with water, and hole gradually was plugged back until all possibilities were exhausted. It was an east offset to the discovery well, No. 1 Government, NE SE NE section 12-44-97, which was completed in January, 1935, at 3,807 feet for 538 bbls. first 24 hours on the pump.

Fruedenthal No. 6, SE SE NE sec. 21-43-92. Drlg. 340 ft.
Ohio Oil Co. No. 75 Mill Iron Cattle Co., NE SW SE sec. 19-4n-98w. T.D. 3,862 ft.; cmtd. 7-in. 3,840 ft. with 400 sacks; R.U.C.T.

Laramie County

The location for the deep test to be drilled by the Amerada Petroleum Corp. in the Cheyenne district, 8 miles southwest of Cheyenne and 6 miles north of the Colorado line, was released in its No. 1 Morton, C SW SW section 13-13n-68. The Noble Drilling Co. has the contract and is moving in heavy duty rotary equipment. This well may establish a depth record for the Rocky Mountain area as the contract provides for a 9,000-foot hole, if necessary. The well will start in the Tertiary which is about 600 feet thick at this location. The company has a block of 15,000 acres. The area lies due north from the Wellington oil field in Colorado.

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. M.I. rotary (first report).

Lincoln County

Senrab Oil Corp. No. 3 Govt., CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.
Texas Co. No. 2-D Govt., N SW NW sec. 10-26-113. Drlg. 985 ft.; soft gr. sd.; 6⅝-in. at 935 ft.

Niobrara County

Continental Oil Co. has another near completion in the Lance Creek field in its No. 3-A Schuricht, which is preparing to test. It was drilled to 3,824 feet, 7 feet in the red beds. Cores at 3,756-3,814 feet showed sand with good oil and gas saturation. It had silt at 3,814-17 feet and top of the red beds at 3,817 feet. Elevation is 4,385 feet.

Continental No. 2 Apex-3, which was reported a completion last week, flowing 935 bbls. in 24 hours, at last reports was flowing 1,500 bbls. a day. The pay was at 3,951-67 feet and the top of the red beds at 4,045 feet.

Continental Oil Co. No. 1 Rohlff, 200 ft. N of S line and 660 ft. W of E line, SE NW sec. 32-36n-65. Loc. (first report).
Continental Oil Co. No. 7 Rohlff, C NE SW sec. 32-36-65. Drlg. 1,400 ft.; 13⅜-in. at 265 ft.
Continental Oil Co. No. 3 Schuricht, C SW NW sec. 5-35-65w. T.D. 3,824 ft.; prep. to test.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. S.D. 821 ft.
MacKinnie Oil & Drlg. Co. No. 1 Thompson, NE NW NE sec. 7-35n-65w. Drlg. 3,367 ft.
Ohio Oil Co. No. 3 Richards & Comstock, 200 ft. S and N and 660 ft. W of E, NE SW sec. 32-36n-65w. Loc.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w. S.D. below 4,600 ft.; believed to have cored top of Tensleep.
Ohio Oil Co. No. 5 Putnam, C NW SW sec. 33-36-65w. Drlg. 2,392 ft.
Riggs Oil Co. No. 2 Spaugh, C NW NE sec. 5-33n-65, (Middle Creek dome). Drlg. 150 ft. (first report).
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. Drlg. 780 ft.
S. & H. Dev. Co. No. 1-A Olinger, SW NE sec. 1-36n-63. T.D. 1,750 ft.; fsg.

Park County

Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101w. Drlg. 4,517 ft.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55n-85w. S.D. 3,801 ft. (cor.).

Sublet County

Progressive Oil Co. No. 1 Haddenham, SE NW SW sec. 21-28n-113w. Drlg. 276 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Nightingale, C SW NE sec. 32-16n-104w. Drlg. 1,942 ft.

Uinta County

Bridger Basin Oil Co. No. 1-B, NW NW SW sec. 10-14n-117. Drlg. 1,165 ft.

Washakie County

Bruce C. Teeters has completed what appears to be the best oil well so far drilled in the Hidden dome field in his No. 2 Government, SW cor. section 30-48-90. It is bottomed at 1,543 feet with casing set at 1,535 feet. It flowed 15 bbls. in 20 minutes and then was shut in for tankage. Production comes from the Frontier. It is approximately 1,000 feet north of Wyoming Oil & Refining Co. No. 3 Government, SW NW NW section 31, which was completed a year ago at 1,540 feet for 160 bbls. naturally.

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48n-91. S.D. 984 ft.
Wyoming O. & R. Co. No. 2 Govt., NW SW SW sec. 31-48n-90w. T.D. 1,104 ft.; fsg. tools.
Wyoming O. & R. Co. No. 1 Frison, NW SW NW sec. 14-48n-91. T.D. 2,295 ft.; lowering 6¼-in. to 2,236 ft. to S.O.W. and test oil show.

Weston County

A completion in the Osage field and also a first report is Charles Stough No. 2, SW SW NW section 4-46-63, which made 10 bbls. on the pump from broken sand at 225-305 feet. H. D. Wiltse No. 8, CNL NW NE section 17-46-63, was dry and abandoned at 400 feet.
Conway Oil Corp. No. 1 Govt., C SE NW sec. 7-41n-60w. Drlg. 2,430 ft.
Beaver Creek Oil Synd. No. 1 State, C NE NE sec. 23-44n-63w. R.U. and ready to spud; W.O. water.
Hawkeye Supply Co. No. 5, CWL NW SW sec. 18-46-63. Spdg.
Dubuque-Wyoming Synd. No. 2, SE NW NW sec. 31-46-63. Drlg. 700 ft.
Wheedon Oil Co. No. 1, C SW SW sec. 14-46n-63. Drlg. 140 ft.

NEBRASKA

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Bldg. rig; will test Madison at 3,900 ft.; blk. of 20,000 ac.

Red Willow County

C. W. Kelly et al No. 1 Bower, SE SW SE sec. 2-2n-29w. Drlg. 1,450 ft.

Sioux County

United Producers, Inc., et al No. 1 Morgan, C SW SW sec. 32-35n-56w. Cable tool rig on ground.

MONTANA

A meeting of 100 operators in the northern Montana fields was held at Shelby on July 15 at which a committee was appointed to prepare a code to govern production and marketing of crude from the Kevin-Sunburst, Pondera and Cut Bank fields. William M. Fulton, Montana chairman of the Independent Petroleum Association of America, presided. Subsequently he was reelected chairman and R. P. Jackson was reelected secretary.

The committee on the proposed code was made up of three groups representing the three pools, as follows:

Kevin-Sunburst: A. E. Crumley, chairman; P. L. Eddy, William M. Knight, W. F. McClain and H. L. Postlewaite.

Cut Bank: A. B. Cobb, chairman; George Nadeau, George McCabe, Dan Drumheller, Jr., and L. R. Hannah.

Pondera: L. F. Sonntag, K. D. Pardee, J. W. Keifer, David Mills and Ray Clugh.

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. Drlg. 2,547 ft.

Carbon County

Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. O.W.D.D. from 4,469 ft.; trying to pull 6⅝-in.

Daniels County

Whitetail O. & G. Co. No. 1 NW NE NW sec. 10-36n-56e. Cmtd. 10-in. at 2,498 ft.

Fallon County

Montana-Dakota Utilities Co. No. 75, C SW sec. 26-9n-58. Drlg. 1,555 ft. on top Eagle sd.
Montana-Dakota Utilities Co. No. 2 Unit 8, C NE SW sec. 8-4n-62. R.U.; W.O. tools.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. S.D. 1,100 ft.; tools still in hole.
Judith Operating Co. No. 2 Govt., NW NE sec. 35-22n-17e. Drlg. 2,085 ft.
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e. Drlg. 576 ft.

Glacier County

There were two completions and two first reports in the Cut Bank field, a slight drop from the average for the past few weeks.

Montana Headlight Oil Co. No. 6 Yunck, C SW NW section 1-34n-6w, in the same section as the discovery well, swabbed 32 bbls. first 24 hours from the pay at 2,760-72 feet. Total depth is 2,781 feet. It will be shot with 20 quarts.

Wilkinson and others No. 1 Allottment 127, C NE NE section 1-32n-6w, in the southern part of the field, was a better well than the average and swabbed 200 bbls. first 24 hours from the pay at 3,010-22 feet. The top of the Cut Bank was at 2,985 feet and total depth 3,025 feet. Elevation is 3,712 feet. The Sunburst at 2,935-60 feet had a show of oil.

G. A. Bodmar, Agt., No. 1 Govt., CSL SW SE sec. 14-36n-6w. Spdg. 75 ft.
British-American Oil Co. No. 11 Tribal, Lot 7, (NW SE) sec. 10-34n-6w. M.I.M.
Cobb-Pardee No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Rig.
A. B. Cobb No. 1 All.-115, C SE SE sec. 31-33n-5w. Drlg. 2,325 ft.
Consolidated Gas Co. No. 2 All.-114, C SE SW sec. 31-33n-5w. Drlg. 2,035 ft.
A. E. Crumley No. 1 All.-112, C SW SW sec. 6-32n-5w. Spdg. 265 ft.
Dakota-Montana Oil Co. No. 2 Mattson, N NE NW sec. 14-34n-6w. Drlg. 2,300 ft.
B. V. Hole No. 1 All.-124, 640 ft. out of NE cor. sec. 1-32n-6w. Drlg. 1,435 ft.
Annand Hutchings No. 2 Federal Land Bank, C SE SW sec. 11-34n-6w. Drlg. 1,395 ft.
Wm. Hanlon, Agt., No. 1 All.-131, Lot 10, (SE NW) sec. 7-32n-5w. Drlg. 680 ft.; Colo. 445 ft.; 10-in. 480 ft.
Kincheloe-Hanlon No. 2 State, NE NE NE sec. 36-33n-6w. T.D. 2,675 ft.; fsg. tools.
R. E. Lee No. 1 All.-137, SE SW NE sec. 26-33n-6w. Drlg. 1,375 ft.; Colo. 610 ft.; 10-in. 641 ft.
Montana Power Gas Co. No. 1 Robb, C NW SW sec. 9-33n-5w. R.U.
Montana Power Gas Co. No. 1-G State, NW NW SE sec. 16-35n-5w. Drlg. 1,925 ft.
Montana Power Gas Co. No. 2 Miller, SW SE NW sec. 32-33n-5w. R.U.
Nadeau Bros. No. 1 Ewald, C NE SW sec. 7-32n-5w. Drlg. 1,125 ft.
H. R. Patterson No. 1 Simero, C SE NE sec. 1-33n-6w. R.U. (first report).
Stanley Gray No. 1 All.-132, NW SE NW sec. 22-34-7w. Drlg. by bit at 3,650 ft.
Jack Marshall No. 1 All.-119, C SE SW sec. 1-32n-6w. Drlg. 2,930 ft.
Steel Creek Prod. Co. No. 1 Tarrant, C NW SW sec. 19-34n-5w. Drlg. up bailer at 2,775 ft.
R. C. Tarrant No. 3 Reickhoff, C NE NE sec. 36-32n-6w. R.O.G.
R. C. Tarrant No. 2 fee, C NW NE sec. 13-34n-6w. Drlg. 920 ft.
R. C. Tarrant No. 6 Getty, SE NE SW sec. 2-34n-6w. Drlg. 2,730 ft.
Texas Co. No. 1 Hardwick, C SE NE sec. 17-32n-5w. Spdg. 15 ft. (first report).
Vern Johnson No. 1 Tribal-116, C NE NE sec. 35-33n-6w. Spdg. 125 ft.
Wilkinson et al No. 1 Tribal-125, SW NE NE sec. 12-32n-6w. Drlg. 1,985 ft.
Whetstone et al No. 1 Tribal-118, C SW SW sec. 1-32n-6w. Drlg. 2,225 ft.
Stanley Gray No. 1 All.-132, NW SE NW

sec. 12-34n-7w. Drlg. 3,620 ft.; 6⅝-in. cmtd. 3,582 ft.

Petroleum County

H. C. Rowland No. 3 Govt., CEL NE SW sec. 18-17n-24e. Drlg. 910 ft.

Judith Basin County

Fitcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. Drlg. 961 ft.

Pondera County

Clinch Pet., Ltd., No. 1 Hollan, NW SW NW sec. 12-23-6w. Cmtd. cave at 2,000 ft.; W.O.C.

Warren Hastings No. 3 Erickson, NW NW NW, sec. 10-27n-4w. Spdg. 100 ft.

Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. Cmtd. 7-in. at 2,200 ft.

Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27-4w. Bldg. drk.

Teton County

R. C. Tarrant No. 1 Wallenstein, NW NW SW sec. 9-27-5w. Drlg. 2,275 ft.

Toole County

A. Beardslee No. 4 Swears, sec. 9-35n-2w. Drlg. 800 ft.

Alexander-Sorrell No. 1 Strange, NE NE SE sec. 31-35n-3w. Drlg. 580 ft.

Agen & Goeddertz No. 2 Goeddertz, C SE NE sec. 16-35n-3w. Drlg. 600 ft.

Boru Oil Co. No. 1 Reynolds, SW NE NW sec. 31-33n-4w. T.D. 1,435 ft.; W.O. rig.

Cassidy & Cassidy No. 2 Carlson, W¼ SE NE sec. 22-35n-3w. Drlg. 1,600 ft.

Carscallen & Mitchener No. 1 Krueger, 1,320 ft. W of E line, 1,980 ft. S of N line, sec. 10-34n-2w. T.D. 1,650 ft.; acidized; did not recover load.

Coolidge & Coolidge No. 1 Badger Oil Co., NW SW NW sec. 31-36n-1w. Spd. and S.D.

Coolidge & Coolidge No. 1 Maley, SW SW SW sec. 30-36n-1w. Lost hole at 180 ft.; skdg. rig.

Coolidge & Coolidge No. 1 Hanlon, SW SW SE sec. 26-36n-2w. Ellis-Madison at 1,858-60 ft., sulp. w.; P.B. to Sunburst and shot with 40 qts.; C.O.; Sunburst at 1,618-35 ft.; est. 6 bbls.

Coolidge & Coolidge No. 2 Shaw, SE SE SE sec. 26-36n-2w. Drlg. 1,258 ft.

Continental Oil Co. No. 8 State, NE SE NE sec. 16-35n-2w. T.D. 1,549 ft.; Sunburst at 1,315-45 ft.; dry after acid; will D.D.

Cook & Eddy No. 1 Larum, NE SE NW sec. 25-36n-2w. Drlg. 1,730 ft.; Sunburst at 1,676-90 ft. dry.

A. E. Crumley No. 10 Shaw, NE SW NE sec. 35-36n-2w. Drlg. 320 ft.

Makula Oil Co. No. 1 Beaupre, SW SW SW sec. 5-35n-2w. Drlg. 1,375 ft.

T. P. Kyle No. 1 Wolnsti, CSL SE SE sec. 3-37n-1w. Drlg. 1,880 ft.

Mahill Oil Co. No. 1 Van Note, NW NW SW sec. 30-35n-2w. Loc.

Munger No. 1 Peterson, NW NW SW sec. 8-35n-2w. Lost hole at 1,200 ft.; skdg. rig.

Welch Bros. No. 1 Dewald, SW NE NE sec. 26-36n-2w. S.D. 1,878 ft.

Superior Oil Co. No. 5 Haugen, SE SE NE sec. 11-35n-3w. Drlg. 1,807 ft.

R. C. White No. 2 Haugen, CNL NE SE sec. 11-35n-3w. S.D. 1,528 ft.

The allocation of production for New Mexico for the last half of July by the State Oil Conservation Board remained unchanged at 74,100 bbls. daily, but there was some realignment of output among the fields. Allocations outside of Lea County were reduced from 4,275 bbls. to 3,995 bbls. daily. Jal production was dropped from 3,611 bbls. daily to 3,452 bbls. Hobbs was cut from 23,247 to 22,261 bbls., and Monument was increased from 12,701 to 14,017 bbls. daily. The Vacuum pool appeared on the proration sheets for the first time, being allowed 93 bbls., the top, a day from the one producing well. The top allowable for nonmarginal Lea County wells was reduced from 95 to 93 bbls.

The new schedule is as follows:

Cooper	7,406
Eunice	21,893
Jal	3,452
Lea	918
North Lea	65
Hobbs	22,261
Monument	14,017
Vacuum	93
Total	70,105

Nominations for purchases in the Hobbs pool by pipe line companies for the last half of July were: Humble Oil & Refining Co., 1,444 bbls. daily; Atlantic Pipe Line Co., 3,473 bbls.; Shell Pipe Line Co., 17,344.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 State, NW NE SW sec. 16-3n-24e. Drlg. 1,588 ft.

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-35n-20e. Drlg. 1,046 ft.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 32-22e. S.D. 4,880 ft. to resurvey; went through 2,400 ft. of Permian, Rico and Cutler beds.

Emery County

California Co. No. 1 Palm Unit 1, C SW SW sec. 32-23s-11e. M.I.M. and drlg. W.W.

Utah County

Diamond Oil Co. No. 4 Govt., CSL SE NW sec. 10-8s-5e. T.D. 3,956 ft.; cmtd. 3½-in. at 3,924 ft.; W.O.C.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. Drlg. 1,522 ft.

Washington County

Arrowhead Pet. Corp. No. 1-A, SE SW NE sec. 1-43s-15w. T.D. 2,477 ft.; trying to S.O.W.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, July 25.—On the west side of the South Turner Valley structure, Turner Valley Royalties No. 1, LSD 13, section 28-18-2w5, has run 3-inch tubing to conserve gas and increase the oil production. The crude flow increased to 875 bbls. before the tubing was run, from an initial production around 850 bbls. a day. No marked increase has since been noticed, but a check of possible leaks is being made. Two 2,000-bbl. tanks have been installed at the well. The crude is around 44 gravity, and the gas-oil ratio is the lowest in the field, 2,500 feet of gas per barrel of crude.

A recent check of Turner Valley producers shows eight wells which might be classified as producing light crude from the lime. All these are on the west side of the structure. A feature of these wells has been the general decline in gravity with continued production. In North Turner Valley, Model Oils No. 1, LSD 8, section 22-20-3w5, which in 1932 graded 59 gravity, is down to about 47, while the gas-oil ratio has also declined. In the Home area, section 20-19-2w5, South Turner Valley, Advance Oil Co. No. 5-A was 69 gravity in 1932 and is now about 55. These conditions would indicate that as the wet gas from the porous lime was drawn off by wells drilled higher on the structure, the heavier crude lower down the fold has taken its place, which in turn would indicate that still heavier crude may be found by drilling farther down the fold.

North of Turner Valley Royalties No. 1, Sterling Pacific No. 4 has derrick up in LSD 4, section 33-18-2w5, and is expected to spud about August 15. Sterling-Pacific No. 3, LSD 13, same section, is below 3,886 feet.

West Side Operations

On the west flank of the South Turner Valley structure, Newfold Royalties No. 1 has let contract for cellar in LSD 11, section 21-18-2w5, south of LSD 14, where Sovereign Royalties No. 1 is drilling, and 1¼ miles south and a little east of the Turner Valley Royalties producer. In the same section, Sovereign Royalties No. 1 Myers & Wright, LSD 14, is below 2,950 feet.

In section 28-18-2w5, British Dominion Oil & Development Corp. No. 4, LSD 6, is below 6,423 feet in alternating hard and soft lime. Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, same section, is cleaning out and deepening after cementing 6-inch casing in the top of the lime at 6,020 feet. South of Turner Valley Royalties No. 1, B. & B. Co. No. 1, LSD 12, section 28-18-2w5, has cellar finished and is starting on derrick.

Foundation Royalties No. 1, formerly Northwest Royalties No. 1, LSD 5, section 21-18-2w5, is below 3,403 feet with intermittent small oil and gas shows.

South Turner Valley

In the far south end of the field, Highwood-Sarcee Oils No. 2, LSD 1, section 21-18-2w5, is 330 feet in the lime, below 6,030 feet depth and is expected to get the main porous horizon around 6,200 feet.

Model Oils Operations

In the North Turner Valley field, Model Oils No. 1, LSD 8, section 22-20-3w5, has run tubing to conserve gas flow and increase crude production. The well, completed in 1930, was the first to get light crude production from the Madison and has maintained a steady production of better than 140 bbls. a day, yielding a production revenue for the year ending May 31 of $153,171.71. Model No. 2, LSD 16, has a naphtha recovery around 23 bbls. a day from the lime, and No. 3, LSD 1, drilled as an offset to Royalite Oil Co. No. 26, is making 9 to 10 bbls. a day after acid treatment and a heavy shot.

Aldersyde District

In the Aldersyde district east of Turner Valley, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is below 6,790 feet. West of High River, Arca Development Corp. No. 1, NW quarter section 24-18-1w5, is below 4,342 feet. On the New Valley structure, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, is resuming from 5,200 feet.

Tests in the Foothills

On the Birch Ridge structure, Elbow Oils No. 1, LSD 11, section 35-22-5w5, is cementing off caving and installing new water line, with hole bottoming at 4,375 feet.

On the Moose Dome, Moose Oils No. 2, LSD 8, section 29-22-6w5, is drilling out cement at 252 feet, after making water shut off. Operations are in charge of Loran Pilling, and standard tools are being used.

South of Turner Valley, Pekisko Hills Co. No. 1, LSD 6, section 6-17-2w5, is in the Banff shales below 2,830 feet and nearing the Devonian limestone where production is expected. It drilled through approximately 2,660 feet of the Madison limestone, getting gas flows estimated 4,000,000 feet a day, in the upper Madison and an oil show at 3,145 feet.

Border Fields

On the Del Bonita structure south of Lethbridge, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, is below 1,200 feet after cementing casing at 600 feet. Terminal Oil Co. No. 1, NE quarter section 18-1-21w4, is supplying gas for drilling the Sunshine well. A small water seepage has been plugged off, and it will be left standing till Sunshine No. 1 reaches the Sunburst horizon, when further experiments to increase the oil flow will be undertaken. At present the Terminal well is rated a small producer of light crude.

On the Comrey structure, southeastern Alberta, McDougall - McLeod Oil Co. No. 1, section 9-1-5w4, is deepening from 3,800 feet.

In the Cardston area, Franco Oils No. 1, LSD 6, section 5-3-25w4, has let contract for completion from 2,700 feet. Gas sand is looked for around 2,900 feet.

Test Near Edmonton

In Central Alberta, F. A. Brandt and associates of Toronto have located a wildcat test on the Bailey Chamberlain farm on the Cooking Lake Trail, 4 miles from Edmonton.

Wainwright Field

In the Wainwright field, east-central Alberta, W. J. Beckett and associates of Toronto are planning extensive development work, to be backed by Ontario mining interests, which control the holdings of the Montreal-Alberta Oil Co.

North Louisiana-Arkansas

(Continued from Page 188)

that this is the only means of discovering such accumulations, which have provided some of the country's greatest oil fields.

Union County

The most important test ever drilled in Union County since the discovery of the El Dorado field was staked in the past week by Phillips Petroleum Co. in the south half of section 18-18s-17w, to be known as its No. 1 Morgan. Results of seismograph mapping were attractive here, and this test will be carried for a thorough test of the upper Paleozoic beds.

After standing for several months at a depth of 3,106 feet, the Don R. Keever No. 1 Slaughter, in section 9-17-16, will be deepened 2,000 feet in search of oil accumulation in upper Paleozoic members. The Root Refining Co. of El Dorado, Ark., has contributed the additional funds for this deepening.

EAST TEXAS (Border Counties)

Panola County

A. C. Glassell, of Shreveport, has begun operations for his No. 1 Frost Lumber Industries in the southwest corner of the Mary S. Potts Survey. A 6,000-foot test of the Glen Rose is planned here, after careful geological and geophysical investigation.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 17 Capitan, Santa Barbara Co. ...	32- 5-30	2,396	sd. sh. drlg.
General Pet. Corp., No. 16 Capitan, Santa Barbara Co.	32- 5-30	1,293	sd. sh. drlg.
La Canada Oil Co., No. 2 Capitan, Santa Barbara Co.	35- 5-30	1,274	sd. sh. drlg.
Barnsdall-Rio Grande, No. SA-58 Elwood, S. Barbara	tideland	3,786	flow. 360 b.d.
Union Oil Co., No. 7 Santa Maria, Santa Barbara Co.	24-10-34	1,640	sd. sh. drlg.
Union Oil Co., No. 16 Orcutt, Santa Barbara Co. ...	26- 9-34	4,040	sd. sh. drlg.
Fields, O. C., No. 1 Lompoc, Santa Barbara Co.	11- 7-33	1,675	hd. sh. drlg.
York Oil Co., No. 2A Lompoc, Santa Barbara Co. ...	33- 8-34	1,351	sd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ...	25-10-35	5,252	hd. sh. drlg.
Top Row Oil Co., No. 1 Lompoc, Santa Barbara Co. ...	10- 6-35	200	sd. sh. drlg.
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara	tideland	5,510	redrlg. 3,494
Dyak Pet. Co., No. 1 Mesa, Santa Barbara Co.	28- 4-27	1,400	sd. sh. drlg.
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	6,561	bailing
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	5,635	cleaning out
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	612	O.S. drlg.
Supreme Oil Co., No. 1 Sespe, Ventura Co.	1- 4-20	1,421	sd. sh. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,376	reaming
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	2,102	hd. sd. drlg.
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	541	cmtd. 541
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co. ...	32- 4-19	1,275	cleaning out
Petroleum Securities, No. 1 Shiells Canyon, Ventura Co.	3- 3-19	3,899	cleaning out
Texas Co., No. 130 Shiells Canyon, Ventura Co.	4- 3-19	3,799	P.B. 3,755
El Rancho Oil Co., No. 1 Shiells Canyon, Ventura Co.	9- 3-19	4,875	sd. sh. drlg.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	1,660	repair. rig
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co. ...	4- 4-18	3,370	pump. 472 b.d
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co. ...	4- 4-18	874	sd. sh. drlg.
Munding, J. J., No. 1 Ojai, Ventura Co.	22- 4-22	501	sd. sh. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	8,575	sd. sh. drlg.
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-23	8,571	sd. sh. drlg.
Continental Oil Co. No. 5 San Miguelito, Ventura Co.	24- 3-24	6,731	will redrl.
C. C. M. Oil Co., No. 1 Javon, Ventura Co.	15- 3-24	4,813	P.B. 4,750
Honolulu Oil Corp., No. 1 South Mountain, Ventura Co.	23- 3-21	2,130	sd. sh. drlg.
Den Petroleum Co., No. 1 Devils Den, Kern Co.	20-25-19	1,262	sd. sh. drlg.
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,887	fish. D.P.
Associated Oil Co., No. 2 Lost Hills, Kern Co.	2-26-20	1,143	cleaning out
East Puente Oil Co., No. 22 McKittrick, Kern Co. ...	11-30-21	1,065	sd. sh. drlg.
Calcrude Pet. Co., No. 1 McKittrick, Kern Co.	34-30-22	1,460	rig. to pump
Welport Oil Co., No. 15 McKittrick, Kern Co.	26-29-21	1,076	O.S. drlg.
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	1,254	reaming
Rio Grande Oil Co., No. 1 Belridge, Kern Co.	18-28-20	1,842	sd. sh. drlg.
Standard Oil Co., No. 4 North Belridge, Kern Co. ...	36-27-20	8,465	flow. 717 b.d.
Associated Oil Co., No. 5 North Belridge, Kern Co. ...	34-27-20	7,162	hd. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	8,120	cmtd. 8,102
Belridge Oil Co., No. 17-35 North Belridge, Kern Co.	35-27-20	8,150	cmtd. 8,150
Belridge Oil Co., No. 5-1 North Belridge, Kern Co. ...	1-28-20	1,140	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,684	P.B. 8,482
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	8,441	flow. 500 b.d.
C. C. M. Oil Co., No. 50 Kern Front, Kern Co.	23-28-27	1,652	sd. sh. drlg.
Republic Pet. Co., No. 15 Kern Front, Kern Co.	11-28-27	1,917	sd. sh. drlg.
Seven Spot Oil Co., No. 1 Kern Front, Kern Co.	13-28-27	1,205	pump. 25 b.d.
Standard Oil Co., No. 11 Kern Front, Kern Co.	5-28-27	2,885	rig. to pump
National Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,888	deepening
American Expl. Co., No. 1 Kern Front, Kern Co. ...	16-28-27	2,862	pump. 130 b.d.
David Oil Co., No. 8 Kern River, Kern Co.	8-29-28	490	O.S. drlg.
Ohio Oil Co., No. 12 Premier, Kern Co.	32-27-27	2,786	tested wet
Ausbrit Oil Co., No. 1 Premier, Kern Co.	20-27-27	2,139	recmtd.
McAdams Oil Co., No. 1 Dominion, Kern Co.	32-26-28	1,902	will redrl.
Modoc Pet. Co., No. 1 Dominion, Kern Co.	28-26-28	1,537	rig. to pump
Santa Carla Oil Co., No. 1 Dominion, Kern Co.	19-26-28	2,050	dry; abd.
Shell Oil Co., No. 16 Mount Poso Security, Kern Co. ..	16-27-28	1,501	sd. sh. drlg.
Cochran Oil Co., No. 1 Jasmine, Kern Co.	31-25-27	2,621	sd. sh. drlg.
Doyle Pet. Co., No. 1 Jasmine, Kern Co.	15-25-27	1,541	sd. sh. drlg.
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	4,488	redrlg. 1,920
Elbee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	2,691	sd. sh. drlg.
Mosebach Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,112	pump. water
Trico Oil & Gas Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,244	P.B. 3,235
Exeter Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	2,960	sd. sh. drlg.
H. L. J. Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,765	pump. dry
Magnet Oil Co., No. 3 Fruitvale, Kern Co.	21-29-27	4,070	cleaning out
Western Gulf Oil Co., No. 24 Fruitvale, Kern Co. ...	22-29-27	3,597	rig. to pump
Western Gulf Oil Co., No. 26 Fruitvale, Kern Co. ...	27-29-27	3,493	flow. 691 b.d.
Western Gulf Oil Co., No. 27 Fruitvale, Kern Co. ...	27-29-27	3,469	P.B. 3,429
Mohawk Oil Co., No. 17 Fruitvale, Kern Co.	23-29-27	3,774	sd. sh. drlg.
Mohawk Oil Co., No. 18 Fruitvale, Kern Co.	11-29-27	2,854	sd. sh. drlg.
Mohawk Oil Co., No. 19 Fruitvale, Kern Co.	23-29-27	3,521	sd. sh. drlg.
Tarr & McComb, No. 3 Fruitvale, Kern Co.	23-29-27	3,190	pump. 40 b.d.
Nydia Pet. Co., No. 1 Fruitvale, Kern Co.	26-29-27	3,568	pump. 135 b.d.
Nydia Pet. Co., No. 2 Fruitvale, Kern Co.	26-29-27	2,158	sd. sh. drlg.
Allied Pet. Co., No. 19 Mountain View, Kern Co. ...	19-30-29	4,532	sd. sh. drlg.
Hogan Pet. Co., No. 16 Mountain View, Kern Co. ...	32-30-29	5,685	P.B. 5,536
Hogan Pet. Co., No. 17 Mountain View, Kern Co. ...	29-30-29	3,642	sd. sh. drlg.
Standard Oil Co., No. 30 Mountain View, Kern Co. ...	19-30-29	5,020	cmtd.
Standard Oil Co., No. 31 Mountain View, Kern Co. ...	13-30-28	1,520	sd. sh. drlg.
Wood-Callahan Oil Co., No. 4 Mountain View, Kern Co.	24-30-28	3,891	sd. sh. drlg.
Fullerton Oil Co., No. 1 Mountain View, Kern Co. ...	19-30-29	3,596	sd. sh. drlg.
Shell Oil Co., No. 12 Mountain View, Kern Co.	32-30-29	2,480	sd. sh. drlg.
Mohawk Pet. Co., No. 1 Arvin, Kern Co.	10-31-29	6,025	granite
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	8,714	hd. sd. drlg.
Shell Oil Co., No. 9 Round Mountain, Kern Co.	17-28-29	1,910	cmtd. 1,858
Shell Oil Co., No. 8 Round Mountain, Kern Co.	7-28-29	1,490	sd. sh. drlg.
Shell Oil Co., No. 15 Round Mountain, Kern Co.	20-28-29	1,645	pump. 100 b.d.
Petroleum Securities, No. 5 Round Mountain, Kern Co.	6-28-29	1,550	rig. to pump
Honolulu Oil Corp., No. 34 Round Mountain, Kern Co.	18-28-29	2,047	pump. 240 b.d.
Honolulu Oil Corp., No. 2 Round Mountain, Kern Co..	18-28-29	1,397	sd. sh. drlg.
Corbett, R. E., No. 1 Edison, Kern Co.	23-30-29	2,174	will cmt.
Berry Holding Co., No. 3 Edison, Kern Co.	10-30-29	1,797	sd. sh. drlg.
Marley, W. F., No. 1 Edison, Kern Co.	19-30-30	780	O.S. drlg.
Jergins Trust, No. 25 Edison, Kern Co.	14-30-29	1,855	pump. 70 b.d.
Jergins Trust, No. 26 Edison, Kern Co.	23-30-29	2,139	cleaning out
Jergins Trust, No. 27 Edison, Kern Co.	23-30-29	2,030	O.S. drlg.
Jergins Trust, No. 28 Edison, Kern Co.	24-30-29	1,510	sd. sh. drlg.
Jergins Trust, No. 29 Edison, Kern Co.	14-30-29	1,566	O.S. drlg.
Wood-Callahan Oil Co., No. 3 Edison, Kern Co.	23-30-29	101	sd. drlg.
Higgins, W. F., No. 1 Edison, Kern Co.	17-30-29	4,187	gr. sd. drlg.
M. & L. Oil Co., No. 1 Edison, Kern Co.	23-30-29	2,078	pump. dry
Texas Co., No. 1 San Emidio, Kern Co.	11-11-22	8,085	hd. sh. drlg.
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-23	830	sd. sh. drlg.
Shell Oil Co., No. 2 Stevens, Kern Co.	29-30-26	4,960	sd. sh. drlg.
Elk Hills Pet. Co., No. 1 Elk Hills, Kern Co.	14-31-24	3,641	sd. sh. drlg.
Fenray Oil Co., No. 1 Midway-Sunset, Kern Co.	34-32-24	2,851	sd. sh. drlg.
C. C. M. Oil Co., No. 1-28 Midway-Sunset, Kern Co. ..	28-32-23	1,775	sd. sh. drlg.
Evans, H. B., No. 11 Midway-Sunset, Kern Co.	35-32-23	1,198	sd. sh. drlg.
Foster, R. A., No. 1 Midway-Sunset, Kern Co.	2-32-23	4,425	cleaning out
Gibson Oil Co., No. 2 Midway-Sunset, Kern Co.	6-11-23	2,905	flow. 600 b.d.
Gibson Oil Co., No. 5 Midway-Sunset, Kern Co.	8-11-23	3,085	recmtd. 3,024
General Pet. Corp., No. 61 Midway-Sunset, Kern Co.	24-31-23	3,863	sd. sh. drlg.
Honolulu Oil Corp., No. 32 Midway-Sunset, Kern Co.	14-32-24	5,052	P.B. 2,894
North American Oil Co., No. 2 Midway-Sunset, Kern	2-32-24	4,337	will cmt.
Signal Oil Co., No. 6 Midway-Sunset, Kern Co.	8-11-23	3,562	sd. sh. drlg.
Hoyt, Otis, No. 2 Midway-Sunset, Kern Co.	1-11-24	1,649	cmtd. 1,401
Standard Oil Co., No. 9 Midway-Sunset, Kern Co.	5-11-23	3,776	br. sh. drlg.
Standard Oil Co., No. 219 Midway-Sunset, Kern Co. ...	33-24-24	2,980	O.S. drlg.
Standard Oil Co., No. 55 Midway-Sunset, Kern Co.	33-32-24	3,310	water witch
Alford Oil Co., No. 6 Midway-Sunset, Kern Co.	25-12-24	2,075	sd. sh. drlg.
Burkholder Oil Corp., No. 1 Midway-Sunset, Kern Co.	23-32-23	2,536	P.B. 2,297
Safeway Oil Co., No. 1 Midway-Sunset, Kern Co.	26-32-23	2,284	sd. sh. drlg.
Stimson Oil Co., No. 1 Midway-Sunset, Kern Co.	27-32-23	2,215	sd. sh. drlg.
Union Oil Co., No. 8 Midway-Sunset, Kern Co.	25-12-24	2,930	O.S. drlg.
Union Oil Co., No. 9 Midway-Sunset, Kern Co.	25-12-24	2,289	will deepen
Merritt Annex Oil Co., No. 5 Midway-Sunset, Kern Co.	25-12-24	570	sd. sh. drlg.
Obispo Oil Co., No. 12 Midway-Sunset, Kern Co.	32-12-23	3,842	will P.B.
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co. ..	22-32-24	3,310	redrlg. 3,300
Ohio Oil Co., No. 1 Tejon, Kern Co.	36-11-19	4,843	hd. sd. drlg.
Hall Baker Co., No. 1 Tejon, Kern Co.	35-11-19	2,259	form. test
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	2,460	sd. sh. drlg.
Reserve Oil & Gas Co., No. 5 Tejon, Kern Co.	33-11-19	2,731	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	7,540	sd. sh. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	1,120	pump. 10 b.d.
Standard Oil Co., No. 2 South Coalinga, Fresno Co. ...	31-21-15	1,602	sd. sh. drlg.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P.B. 10,729
Shell Oil Co., No. 1 Kettleman North, Fresno Co. ...	36-21-17	8,807	redrlg. 6,000
K. N. D. A., No. 2 Kettleman North, Fresno Co.	20-21-17	8,700	O.S. drlg.
K. N. D. A., No. 38 Kettleman North, Fresno Co. ...	18-21-17	8,342	redrlg. 8,290
K. N. D. A., No. 43 Kettleman North, Fresno Co. ...	30-21-17	7,384	br. sh. drlg.
K. N. D. A., No. 74 Kettleman North, Fresno Co. ...	30-21-17	8,650	reaming
K. N. D. A., No. 81 Kettleman North, Fresno Co. ...	24-21-16	8,621	hd. sd. drlg.
K. N. D. A., No. 83 Kettleman North, Fresno Co. ...	24-21-16	7,990	hd. sd. drlg.
K. N. D. A., No. 21 Kettleman North, Fresno Co. ...	34-21-17	8,090	flow. 1,850 b.d.
Standard Oil Co., No. 38 Kettleman North, Fresno Co.	27-21-17	8,175	sd. sh. drlg.
Standard Oil Co., No. 25 Kettleman North, Fresno Co.	19-21-17	8,213	sd. sh. drlg.
Standard Oil Co., No. 43 Kettleman North, Fresno Co.	19-21-17	8,112	sd. sh. drlg.
Standard Oil Co., No. 56 Kettleman North, Fresno Co.	19-21-17	8,356	O.S. drlg.
Standard Oil Co., No. 65 Kettleman North, Fresno Co.	19-21-17	8,340	reaming
Standard Oil Co., No. 72 Kettleman North, Fresno Co.	19-21-17	8,280	hd. sd. drlg.
Standard Oil Co., No. 3 Kettleman Middle, Kings Co.	19-23-19	3,782	sd. sh. drlg.
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	2,154	sd. sh. drlg.
Hurndall, John, No. 1 Pyramid Hills, Kings Co.	16-24-18	1,986	cleaning out
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,500	suspended
Associated Oil Co., No. 1 Avenal, Kings Co.	35-23-17	1,956	redrlg. 1,325
United Oil Co., No. 2 Panorama, San Luis Obispo Co.	2-32-21	1,506	hd. sd. drlg.
Taft Well Drlg. Co., No. 1 Pismo, San Luis Obispo Co.	31-31-13	4,296	P.B. 1,500
Avila Oil Co., No. 1 Pismo, San Luis Obispo Co.	10-32-13	1,450	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Martin, J. D., No. 4 Pismo, San Luis Obispo Co. ...	5-32-13	3,062	sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co. ...	5-32-13	2,910	sd. sh. drlg.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,850	redrlg. 1,640
Crail Bros., No. 1 Pismo, San Luis Obispo Co.	8-32-13	1,601	sd. sh. drlg.
Jergins Trust, No. 1 Pismo, San Luis Obispo Co. ...	5-32-13	2,300	sd. sh. drlg.
Barnsdall Oil, No. 1 Carissa Plains, San Luis Obispo	24-28-17	4,187	coring
Standard Oil Co., No. 2 McDonald Island, San Joaquin	25- 2-4	1,946	sd. sh. drlg.
Pure Oil Co., No. 4 Chowchilla, Madera Co.	20-10-14	5,490	dry; abd.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	8,994	P.B. 8,750
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	4,428	fish. D.P.
Standard Oil Co., No. 1 Rio Vista, Solano Co.	35- 4-2	1,572	sd. sh. drlg.
Fortine, W. H., No. 1 Terra Bella, Tulare Co.	22-22-26	3,085	P.B. 2,719
Associated Oil Co., No. 1 Sargent, San Benito Co. ...	5-12-4	141	sd. sh. drlg.
Seaboard Oil Co., No. 1 Alameda, Alameda Co.	13- 3-3	951	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Marvin, J. L., No. 1 El Segundo, Los Angeles Co. ...	7- 3-14	7,521	cleaning out
Ohio Oil Co., No. 1 El Segundo, Los Angeles Co. ...	7- 3-14	7,040	sd. sh. drlg.
Signal Finance, No. 1 Hawthorne, Los Angeles Co. ...	10- 3-14	4,372	cleaning out
Shell Oil Co., No. 1 Torrance, Los Angeles Co.	33- 3-14	4,263	sd. sh. drlg.
Mari Oil Co., No. 1 Torrance, Los Angeles Co.	35- 3-14	4,633	cleaning out
Clark, T. R., No. 1 Torrance, Los Angeles Co.	23- 4-14	3,875	cleaning out
Roach, W. C., No. 2 Torrance, Los Angeles Co.	6- 4-14	3,665	rig. to pump
Walken Oil Co., No. 2 Torrance, Los Angeles Co. ...	31- 3-14	1,469	sd. sh. drlg.
Linderman Oil Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,330	sd. sh. drlg.
Marshall Oil Co., No. 1 Torrance, Los Angeles Co. ...	31- 3-14	1,162	sd. sh. drlg.
Dumas-Lewis Oil Co., No. 2 Torrance, Los Angeles Co.	6- 4-14	3,360	cleaning out
Tu-Jax Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	2,751	sd. sh. drlg.
Nelson Pet. Co., No. 1 Hermosa, Los Angeles Co.	18- 4-14	4,551	br. sh. drlg.
Lawler Pet. Co., No. 2 Torrance, Los Angeles Co. ...	31- 3-14	3,591	pump. 150 b.d.
Texas Co., No. 6 Redondo, Los Angeles Co.	5- 4-14	3,617	pump. 238 b.d.
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co. ...	8- 4-14	4,400	pump. 70 b.d.
Standard Oil Co., No. 19 Inglewood, Los Angeles Co.	17- 2-14	3,585	sd. sh. drlg.
Silver Pet. Co., No. 1 Inglewood, Los Angeles Co. ...	16- 2-14	2,540	idle
Shell Oil Co., No. 22 Inglewood, Los Angeles Co. ...	8- 2-14	3,665	P.B. 240
Shell Oil Co., No. 23 Inglewood, Los Angeles Co. ...	8- 2-14	1,552	sd. sh. drlg.
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	9,001	P.B. 8,910
Crude Oil Drlg. Co., No. 1 Dominguez, Los Angeles Co.	31- 3-13	120	sd. sh. drlg.
Shell Oil Co., No. 7 Dominguez Reyes, Los Angeles Co.	33- 3-13	6,977	flow. 410 b.d.
Shell Oil Co., No. 84 Domingues Reyes, Los Angeles Co.	33- 3-13	1,931	sd. sh. drlg.
Union Oil Co., No. 8 Domingues Carson, Los Angeles	33- 3-13	7,306	milling
Union Oil, No. 47 Domingues Callender, Los Angeles	33- 3-13	7,570	sd. sh. drlg.
Union Oil, No. 43 Domingues Heilman, Los Angeles	33- 3-13	5,419	cmtd. 5,325
Union Oil, No. 38 Domingues Callender, Los Angeles	33- 3-13	7,393	sd. sh. drlg.
Barnsdall Oil Co., No. 15 Rosecrans, Los Angeles Co.	18- 3-13	6,395	cleaning out
Republic Pet. Co., No. 1 Rosecrans, Los Angeles Co.	18- 3-13	6,072	cmtd. 5,883
Associated Oil Co., No. 18 Seal Beach, Los Angeles Co.	11- 5-12	6,605	flow. 380 b.d.
Continental Oil Co., No. 39 Seal Beach, Los Angeles	11- 5-12	5,791	sd. sh. drlg.
Eastern Oil Co., No. 1 Rel Rey, Los Angeles Co. ...	22- 2-15	7,436	recmtd. 7,295
Del Rey Drlg. Co., No. 1 Del Rey, Los Angeles Co. ...	27- 2-15	4,755	sd. sh. drlg.
Union Oil Co., No. 23 Del Rey, Los Angeles Co.	27- 2-15	5,564	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co. ...	1- 3-16	2,300	sd. sh. drlg.
Holbrook Pet. Co., No. 1 Newhall, Los Angeles Co. ...	28- 4-16	1,591	sd. sh. drlg.
Royalty Service, No. 11-1 Wilmington, Los Angeles	28- 4-13	3,761	sd. sh. drlg.
Hull, James, No. 1 Wilmington, Los Angeles Co. ...	20- 4-13	4,012	cleaning out
Cedri Oil Co., No. 1 Wilmington, Los Angeles Co. ...	29- 4-13	3,710	pump. 30 b.d.
General Pet. Corp., No. 1 Wilmington, Los Angeles	4- 5-13	4,231	sd. sh. drlg.
Monarch Oil Corp., No. 1 Topango Canyon, Los Angeles	5- 1-16	1,568	sd. sh. drlg.
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	5,051	hd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co. ..	5- 2-11	6,287	sd. sh. drlg.
Standard Oil Co., No. 86 Montebello, Los Angeles Co.	2- 2-12	2,780	rig. to pump
Universal Consd., No. 7 Montebello, Los Angeles Co.	5- 2-11	5,895	120 b.d. by hd.
Universal Consd., No. 8 Montebello, Los Angeles Co.	5- 2-11	3,977	sd. sh. drlg.
Richfield Oil Co., No. 2 Montebello, Los Angeles Co.	5- 2-11	7,560	flow. 1,000 b.d.
Richfield Oil Co., No. 3 Montebello, Los Angeles Co.	5- 2-11	4,740	sd. sh. drlg.
Texas Co., No. 14 Montebello, Los Angeles Co.	5- 2-11	1,180	sd. sh. drlg.
Texas Co., No. 15 Montebello, Los Angeles Co.	5- 2-11	1,491	sd. sh. drlg.
Keystone Oil Co., No. 1 Pico, Los Angeles Co.	9- 2-11	4,472	sd. sh. drlg.
Bandini Pet. Co., No. 14 Santa Fe Springs, Los Angeles	6- 3-11	4,790	cleaning out
General Pet., No. 46-D Santa Fe Springs, Los Angeles	6- 3-11	4,140	cleaning out
General Pet., No. 137-F, Santa Fe Springs, Los Angeles	5- 3-11	5,489	P.B. 5,225
Twin Bell Synd., No. 3 Santa Fe Springs, Los Angeles	5- 3-11	4,080	bailing
Union Oil Co., No. 21 Santa Fe Springs, Los Angeles	5- 3-11	4,500	bailing
Union Oil Co., No. 33 Santa Fe Springs, Los Angeles	8- 3-11	1,081	sd. sh. drlg.
Bernstein, M. E., No. 1 Artesia, Los Angeles Co. ...	25- 3-12	5,888	redrlg. 459
McVicar & Rood, No. 1 San Jose Hills, Los Angeles Co.	6- 2-9	3,120	recmtd. 875
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5-5	2,510	hd. sd. drlg.
Hillman & Long, No. 1 Westminister, Orange Co. ...	14- 5-11	7,701	cleaning out
Five Point Oil Co., No. 1 Huntington, Orange Co. ...	36- 5-11	4,563	sd. sh. drlg.
Shell Oil Co., No. 1 Anaheim, Orange Co.	7- 6-10	4,571	sd. sh. drlg.
Ajax Pet. Co., No. 1 Newport, Orange Co.	21- 6-10	7,262	resume work
Shell Oil Co., No. 19 Brea, Orange Co.	2- 3-10	1,220	cmtd. 1,125
West American Oil Co., No. 1 East Coyote, Orange Co.	24- 3-10	4,910	sd. sh. drlg.
Daly Oil Co., No. 1 East Coyote, Orange Co.	20- 3-9	2,820	cmtd. 2,750
Union Oil Co., No. 22 Chapman Richfield, Orange Co.	30- 3-9	4,200	sd. sh. drlg.
Union Oil Co., No. 29 Chapman Richfield, Orange Co.	30- 3-9	5,637	sd. sh. drlg.
Union Oil Co., No. 30 Chapman Richfield, Orange Co.	30- 3-9	3,076	sd. sh. drlg.
Union Oil Co., No. 31 Chapman Richfield, Orange Co.	30- 3-9	4,475	pump. 130 b.d.
Union Oil Co., No. 32 Chapman Richfield, Orange Co.	30- 3-9	1,640	sd. sh. drlg.
Calif. Eastern Oil Co., No. 1 Placentia, Orange Co. ...	31- 3-9	4,520	redrlg. 4,381
Tehama Pet. Co., No. 2 Kraemer, San Bernardino Co.	33- 2-8	566	sd. sh. drlg.
Tehama Pet. Co., No. 3 Kraemer, San Bernardino Co.	3- 3-8	467	hd. sh. drlg.
Tehama Pet. Co., No. 4 Kraemer, San Bernardino Co.	33- 2-8	401	hd. sd. drlg.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10-5	2,421	hd. sd. drlg.

KANSAS

Week Ending July 25 (Descriptions are East unless marked otherwise)

Barber County

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Set 12-in. csg. 455 ft.

Barton County

J. A. Brouk et al No. 1 Keil, SE SE NE sec. 11-16-15w. Oswego 3,160 ft.; U.R.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Set 12-in. csg. 555 ft.

G. H. Rose and W. H. Lant No. 1 Redetzke, NE NW NW sec. 1-16-11w. Drlg. 1,115 ft.

Rose Spring Drlg. Co. et al No. 1 Rick, SW cor. sec. 1-19-11w. Siliceous 3,321 ft; S.L.M.; swbd. 10 bbls. oil per hour; acidized.

Schermerhorn Oil Co. No. 1 Hunter, NE cor. sec. 29-18-15w. K.C. 3,194 ft.; **La Motte; Juartzite 3,565-76 ft. T.D.; P.B. 3,518 ft.; gas 18,000,000 ft.**

Torry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w. Siliceous L. 3,430-32½ ft.; T.D.; potential; pumped 346 bbls. oil in 18¼ hrs.

Yarnell & Carlson No. 1 Roth, NE cor. sec. 35-18-12w. S.D. 200 ft.

Butler County

Dalton et al No. 1 Miley, C SW NE sec. 17-27-5. S.D. 350 ft.

Ellis et al No. 1-A Pettit, SE SE NW sec. 21-28-6. Siliceous 3,160-63 ft.; pumped 53 bbls. oil, est. 600 bbls. wtr.; comp.

W. P. Hildebrandt et al No. 1 Farab, SW SW SE sec. 5-29-6. Cellar.

McGinnis et al No. 1 Hinnen, NE NE SW sec. 18-24-4. H.F.W. 2,550 ft.; D.&A.

Clark County

Olson & Watchorn No. 1 Morrison, C SE SW sec. 17-32-21w. Drlg. 4,368 ft.

Cowley County

A. D. Morton et al No. 1 Roxer, SE SE NE sec. 1-31-4. Drlg. 2,430 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. **Anhydrite 1,167 ft.;** K.C. 4,028 ft. (cor.); drlg. 4,569 ft.

Ellis County

Albec Oil Co. No. 1 Union Pacific, NE cor. sec. 9-13-20w. Oswald 3,418 ft.; Cong. 3,670 ft.; fsg. 3,783 ft.

Bradley Oil Co. et al No. 1 Penney-Wann, SE cor. sec. 13-15-20w. Anhy. 1,277 ft.; drlg. 3,403 ft.

Bridgeport Mch. Co. No. 1 Ubert, NE NE NW sec. 12-13-18w. Drlg. 3,235 ft.

Empire O. & R. Co. No. 1 Herl, SE cor. sec. 22-15-19w. **Anhydrite 1,135 ft.;** Topeka 2,935 ft.; drlg. 3,255 ft.

Empire O. & R. Co. No. 1 Samuelson, NE NE SE sec. 31-11-16w. Anhydrite 1,270 ft.; drlg. 1,435 ft.

Champlin Refining Co. No. 1 Hadley, SE SW NE sec. 30-11-17w. Drlg. 106 ft.

Frank Hamilton et al No. 1 Sack, NW NW SE sec. 26-13-19w. Rig.

Jones & Shelbourne No. 1 Gunther, SE SE SW sec. 9-11-19w. Anhydrite 1,417 ft.; U.R. 2,900 ft.

Kansas Dev. Corp. No. 1 Haller, SE SE NW sec. 10-11-18w. Anhydrite 1,190 ft.; Topeka 2,915 ft. (cor.); T.D. 3,054 ft.; 1,500 ft. oil in hole.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Loc.

Lario O. & G. Co. No. 1 Marshall, NW SE NE sec. 36-11-18w. Drlg. 850 ft.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Loc.

Phillhan Oil Co. No. 1 Gerstner, SW SW SE sec. 24-14-17w. Drlg. 2,495 ft.

Twin Drlg. Co. et al No. 1 Schmidt, SW SW SE sec. 22-15-17w. Anhydrite 1,100 ft.; drlg. 1,435 ft.

Vickers Pet. Co. No. 1 Kraus, SW SW NW sec. 22-14-19w. Anhy. 1,390 ft.; Oswald 3,420 ft.; H.F.W. 3,593-96 ft.; set 7-in. csg. 3,600 ft.; C.O.

Wolf Creek Oil Co et al No. 1 Polifka, SW SW NE sec. 24-13-18w. Spudded.

Ellsworth County

Carter Oil Co. et al No. 1 Kruse, C S½ S½ NE sec. 31-17-8w. Drlg. 1,479 ft.

Roy Ramsey et al No. 1 Gregory, SW SW SE sec. 26-16-9w. H.F.W. 3,318-23 ft.; D.&A.

York State Oil Co. No. 1 Koestle, NW NW SE sec. 12-17-9w. Salt 875 ft.; drlg. 3,020 ft.

Finney County

Helmerich & Payne No. 1 Jones, C SE sec. 34-26-34w. Dolomite 2,507 ft. Set 6-in. 2,515 ft. R.U.S.T.

Greenwood County

Ward McGinnis No. 1 Lampe, NW NE SW sec. 26-24-8. Fsg. 2,430 ft.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. S.D. 1,000 ft.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW sec. 17-35-8w. **Wilcox sand 5,320 ft.; S.O. and gas, salty taste; T.D. 5,410 ft.;** P.B. 4,400 ft.; Mississippi 4,778 ft.; in new hole; Viola 5,245 ft.; Wilcox 5,322 ft. Drlg. 5,705 ft.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. S.D. 3,110 ft.

Phillips Pet. Co. No. 1 Kaufman, NE NE NW sec. 2-22-2w. Chat 2,990 ft.; H.F.W. 3,439-46 ft.; T.D. 3,453 ft.; D.&A.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. Rig.

Kuhn Bros. et al No. 1 Nilson, SW SW SE sec. 21-28-32w. Set 6-in. csg. 2,409 ft.; R.U.S.T.

Kingman County

W. C. McBride, Inc., No. 2-A Wooldridge, SW NE SE sec. 16-27-7w. Drlg. 800 ft.

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 32-27-8w. O.W.D.D.; drlg. 4,583 ft.

Lincoln County

Graham et al No. 1 Smiley, NE NW NW sec. 26-10-9w. Rot. rig.

Lyon County

Becker Bros. No. 1 Rossillion, SE SE NE sec. 19-21-11. Drlg. 900 ft.

Marion County

Empire Oil & Ref. Co. No. 1 Schmidt, NW NW SE sec. 31-20-2. Rigging up.

Meade County

Pacific Midwest Oil Co. No. 1 Rexford, NE SE SW sec. 3-30-29w. Rig.

McPherson County

Empire O. & R. Co. No. 1 Cunningham, SE cor. sec. 26-18-1w. Chat 2,803 ft.; T. D. 2,832 ft.; acidized; made pot. 830 bbls. oil; comp.

T. C. Johnson, et al No. 1 A. R. Johnson, SW SW NW sec. 33-17-1w. Siliceous 3,-323-32 ft.; D.&A.

Ness County

Continental Oil Co. No. 1 Thompson, C E½ E½ SW sec. 13-18-26w. Siliceous and S.O. 4,446-50 ft.; T.D. 4,527 ft. Water. P.B. 4,492 ft.; acidized; no test.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. S.D. 530 ft.

Sayre Oil Co. et al No. 1 Ryersee, C NE SE sec. 34-18-21w. Loc.

Pawnee County

Kessler & Their et al No. 1 Gustafson, SW cor. sec. 27-20-16w. Drlg. 160 ft.

Simpson Oil Co. et al No. 1 Gates, SW cor. sec. 13-20-16w. Bldg. rig.

Reno County

Continental Oil Co. and L. H. Wentz No. 1 Snook, NE NW SW sec. 10-22-8w. Drlg. 1,770 ft.

Dickey Oil Co. No. 1-A Shepherd, NE NE NW sec. 32-26-9w. Chat 3,870 ft.; wtr., 4,161 ft.; P.B. 4,135 ft.; Simpson 4,237 ft.; Siliceous, 4,333 ft. T.D. 4,375 ft. P.B. 4,035 ft.; shot; no shows; to acidize.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.O. 2,874 ft.; H.F.W. 3,075 ft.; S.D. 3,190 ft.

Graham et al No. 1 Miller, NE NE SE sec. 36-25-10w. Cg. 3,407 ft.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w. Drlg. 1,910 ft.

Pryor & Lockhart et al No. 1 Kerr, C NW sec. 23-23-8w. Drlg. 605 ft.

Rose Spring Drlg. Co. No. 1 Swanson, NE NE NW sec. 1-23-5w. Simpson 3,954 ft.. Set 6-in. csg. 3,954 ft.

Rice County

Beardmore et al No. 1 Fuller, SW SW SE sec. 23-18-7w. K.C. 2,777 ft.; **Cong. 3,-111-89 ft.;** Simpson 3,430 ft.; S.D. 3,-495 ft.

W. S. Field et al No. 1 Crawford, SE SE SW sec. 21-19-6w. Cellar.

Gumac Oil Co. No. 1 Sargent, SE cor. sec. 31-18-6w. Drlg. 3,465 ft.

Gulf Oil Corp. No. 1 Steckel, SW cor. sec. 30-19-10w. Set 10-in. csg. 150 ft.

Saco Oil Co. et al No. 1 Haxton Est., NW NW NE sec. 30-19-8w. Anhydrite 315 ft. Drlg. 1,360 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7. Drlg. 1,880 ft.

Shell Pet. Corp. No. 1 Gordon, C W half W half NE sec. 21-21-10w. Drlg. 2,840 ft.

Shell Pet. Corp. et al No. 1 Hafermann, C N½ N½ SE sec. 6-19-9w. Siliceous 3,192 ft.; T.D. 3,216 ft.; pumped 937 bbls. in 17¾ hrs.

Shell Pet. Corp. No. 1 Maughlin, NE NW SE sec. 11-20-8w. Siliceous 3,235-38 ft.; 36,500,000 ft. gas at 3,260 ft.; acidized.

Simpson & Noble et al No. 1 Pulliam, C S¼ N¼ NE sec. 35-19-8w. K.C. L. 3,-846 ft.; Viola 3,189 ft.; Simpson, 3,310 ft.; Siliceous 3,279 ft.; drlg. 3,569 ft.

Simpson & Noble and Stanolind O. & G. Co. No. 1 Bowman, SW SW NW sec 22-19-10w. Anhy. 438 ft.; Siliceous 3,286-94 ft.; T.D.; P.B. 3,297 ft.; pot. 50 bbls. oil, 450 bbls. wtr.

Rooks County

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6-18w. Ponds.

Hartman & Blair et al No. 1 Hall, NW cor. sec. 25-10-17w. Anhydrite 1,322 ft.; drlg. 2,755 ft.

Helmerich & Payne et al No. 1 Bedard, C NE sec. 29-9-19w. Set 5-in. csg. 3,625 ft.; C.O.

L. C. D. Drlg. Co. et al No. 1 Westhusin C NE SE sec. 11-9-17w. Anhydrite 1,260 ft.; drlg. 1,296 ft.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Set 8-in. csg. 2,783 ft.; U.R.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. Anhydrite 1,130 ft.; Oswald 2,865 ft.; U.R.

Ikaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 28-10-17w. Set 5-in. csg. 3,658 ft.

Rush County

Boyle & Grossman No. 1 Wilson, NE cor. sec. 33-17-19w. Drlg. 3,875 ft.

W. E. Skeeles et al No. 1 Grumbein, SW SW NE sec. 7-16-20w. Cellar.

Russell County

Armer et al No. 1 Maier, NE NW NE sec. 20-15-14w. Anhydrite 840 ft.; drlg. 2,135 ft.

Coralena Oil Co. No. 1 L. A. Sellens, NW cor. sec. 17-15-13w. R.U.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Anhydrite 690 ft.; P.B. 1,235 ft.; drlg. 1,680 ft.

Lario O. & G. Co. et al No. 1 Steinert, NE NE SW sec. 21-15-15w. Anhy. 875 ft.; Oswald 3,060 ft.; T.D. 3,095 ft.; swbd. 5 bbls. oil per hour; W.O.C.

I. & Reser No. 1 Penix, SW SW SE sec. 13-14-13w. Anhydrite 705 ft.; Topeka 2,595 ft.; set 6-in. csg. 2,900 ft.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w. Tarkio L. 2,515 ft.; T.D. 2,550 ft.; swbd. 5 B.P.H. and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

Saline County

Ryan Consolidated Co. & Archer No. 1 Norton, NE cor. sec. 32-14-2w. Drlg. 1,-710 ft.

Sedgwick County

D. R. Lauck No. 1 McLean, SW SW SE sec. 1-27-1w. Drlg. 1,486 ft.

Earl Wakefield et al No. 1 Howard, SE SE NE sec. 25-25-2. Drlg. 576 ft.

Sheridan County

O. A. Roberts et al No. 1 Carrick, C NW sec. 34-9-27w. M.I.M.

Stafford County

Indian Terr. Illum. Oil Co. and Empire O. & R. Co. No. 1 Mellies, C N½ N½ NE sec. 6-22-11w. R.U.

C. H. Lebow et al No. 1 Wolk, SE SW NW sec. 3-21-12w. Fsg. 2,335 ft.

Sumner County

Matthews & Derrington No. 1 Berry, NW NW SE sec. 14-35-1. S.D. 3,765 ft.

Pryor & Lockhart No. 1 McCowen, NE NE SW sec. 18-32-1w. Bldg. rig.

E. B. Shawver No. 1 Judd, SW SE NE sec. 3-34-2. Drlg. 2,995 ft.

Texas Co. No. 1 Reed, NE SE SE sec. 11-31-1w. H.F.W. 3,060 ft.; S.D. 3,385 ft.

D. J. Wilson et al No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW sec. 15-36-1w. Wilcox 4,394 ft.; S.D. 4,430 ft.

Trego County

Central Commercial No. 1 Wagg, NW NW SE sec. 17-13-21w. K.C. L. 3,548 ft.; granite 4,562-63 ft.; T.D.; P.B. 3,910 ft.

J. J. Hall et al No. 1 Deines, SE SE SE sec. 12-13-24w. Drlg. 3,121 ft.

R. B. McNeely et al No. 1 Lemke, NW NW SW sec. 7-11-22w. Set 10-in. csg. 110 ft.

G. M. Piggott, Inc. et al No. 1 Burkett. C SW sec. 15-11-22w. Loc.

Woodson County

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. L. 1,505 ft.; T.D. 1,527 ft.; P.B. 1,200 ft.; H.F.O.; no test.

Ladd et al No. 1 Milliner, NW SW NW sec. 34-25-14. R.U. machine.

Lewis et al No. 1 Riggs, SW cor. sec. 10-26-14. Drlg. 1,225 ft.

C. L. Sheedy et al No. 1 Fuhlhage, NE NW SW sec. 27-25-14. Set 6-in. csg. 1,431 ft.

OKLAHOMA

Week Ending July 25

NORTHERN OKLAHOMA

Beckham County

Jo-Gail Drlg. Co. No. 1 Gilliland, C NE NE sec. 33-8-26w. Drlg. 1,270 ft.

Cleveland County

Hall-Briscoe, Inc., No. 1 Fant, SW SW NE sec. 27-10-2w. S.D. at 7,511 ft.

Coal County

Carter Oil Co. and Magnolia Pet. Co. No. 1 James, SW NW SW sec. 35-1s-8. Wapanucka 660 ft.; drlg. 2,512 ft.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Sd. 790-820 ft.; drlg. 2,050 ft.

W. C. Mitchell No. 1 Quiett, NE NW SW sec. 35-1-8. Wapanucka 1,550 ft.; T.D 1,900 ft.; bailed to 1,700 ft.; no showing.; S.D.

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10. Hunton 5,280 ft.; Sylvan 5,355 ft.; Viola 5,448 ft.; S.O. 5,640-57 sd. 6,275 ft.; T.D. 6,457 ft.; P.B. 4,270 ft. Bailed dry. Est. 75,000 ft. gas.

Sinclair Prairie Oil Co. No. 1 Culver, NE NE SW sec. 16-1-8. Drlg. 2,992 ft.

Garfield County

Herndon Drlg. Co. etal No. 1 Branson, SW SW SE sec. 23-24-3w. Drlg. 4,780 ft.

Earl McBride et al No. 1 Gage Est., SE SE NW sec. 27-22-3w. S.D. 1,380 ft.; sand 1,360-80 ft.; water.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w. Top Dense 5,915 ft.; Dolomite 5,935 ft.; first Wilcox 5,975 ft.; second Wilcox 6,033 to 6,168 ft.; Arbuckle 6,319 ft.; T.D. 6,429 ft.; S.D.

Garvin County

Charles E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3. O.W.D.D.; sd. 2973 ft.; Hunton 3,000 ft.; T.D. 3,018 ft.; swabbed 80 bbls. oil, 20 bbls. wtr. in 8 hrs.

B. F. Lundy No. 1 Prince, NE NE SE sec 32-1-2w. Loc.

C. A. Luttrell et al No. 1 Howell, NW SE NW sec. 34-1-1. Drlg. 155 ft.

McElreath & Suggett No. 1 Lasater, SE SE SW sec. 2-2-1w. Cored 4,563-66 ft.; T.D. 5,010 ft.; rmg.

Grady County

John Graham et al No. 1 Castleberry, SW SE NW sec. 8-5-7w. T.D. 580 ft. S.D. for water.

Art Holt et al No. 1 Ramsey, NE SE NE sec. 31-5-8w. Drlg.

Ray Stevens No. 1 Maya, NE cor. sec. 1-3-8w. Drlg.

Hughes County

McAdams & Barnes No. 1 Homahte, SW NE NE sec. 1-9-10. Gilcrease 2,630 ft.; drlg. 2,715 ft.

McAdams & Barnes No. 1 Long, SE NE NW sec. 29-9-9. Senora sand 1,730-55 ft. T.D. 2,615 ft. Fsg.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9 H.F.W. 5,610 ft. Dolomite 5,598 ft.; Wilcox 2,648 ft.; T.D. 5,687 ft.; wtr. broke in; to recmt.

Sinclair Prairie Oil Co. et al No. 1 Willkly, SW cor. sec. 23-9-8. Calvin 1,505 ft.; Cromwell 3,508 ft.; T.D. 3,549 ft.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Booch 2,950 ft.; Gilcrease 3,100 ft.; Wapanucka 3,470 ft.; Cromwell 3,497 ft.; T.D. 3,498 ft.; fsg.

Kay County

W. O. Allen No. 1 Fulton, SE cor. sec. 18-27-4. S.D. 1,675 ft.

Denver Prod. & Ref. Co. No. 1 School, SE NW NE sec. 13-26-1w. T.D. 128 ft.; W.O.C.

Robert Wilson et al No. 1 Dickerson, NE NE SW sec. 20-29-1w. Cellar and pits.

Kiowa County

E. A. De Bolt et al No. 1 Burnett, NW SE NE sec. 30-7-20w. Pits.

Hendershot & Wilson No. 1 Parrish, SE SE NW sec. 2-6-15w. T.D. 290 ft.; S.D.

Travis & Scott No. 1 Doyle, NE SE SW sec. 21-5-17w. T.D. 385 ft.; fsg.

Westbrook & Likeing No. 1 Aetna Life Ins. Co., NE SE SE sec. 10-5-16w. Drlg. 380 ft.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. Pull 10-in. csg.; T.D. 1,-390 ft.

Lincoln County

Amerada Petroleum Corp. et al No. 1 Zimmerman, SW SW NE sec. 10-12-5. Acidized; flowed and swabbed 320 bbls. oil and 212 bbls. water in 24 hrs.

Mid-Continent Pet. Corp. and Texas Co No. 1 Hillman, SW SE NE sec. 29-13-6. T.D. 4,442 ft.; R.U.S.T.

Skelly Oil Co. No. 1 Sporn, NW NE SW sec. 21-17-3. Drlg. 2,998 ft.

McIntosh County

S. E. Dieckman No. 1 K. McIntosh, SE cor. sec. 4-12-17. S.D. at 1,000 ft.

Noble County

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Gillham, NE SE SE sec. 14-22-1. Drlg. 4,527 ft.

Payne County

R. L. Kemp and Continental Oil Co. No. 1 Lobaus, NW SW NW sec. 21-17-5. First Wilcox 4,007-20 ft., gas and spray oil; second Wilcox 4,036 ft.; T.D. 4,038 ft., wtr.; P.B. 4,035 ft.; est. 3,000,000 ft. gas; S.D.

Oklahoma County

I. D. O'Shaughnessy, Inc. No. 1 Berlowitz, SE SW NE sec. 9-12-3w. T.D. 6,636 ft.; W.O.C.

Osage County

Chavalier & Simon No. 1 Osage, SE cor. sec. 24-23-9. Loc.

Gray & Folson No. 1 Osage, SW SW NE sec. 33-25-7. Wilcox 2,948 ft. S.D. 3,052 ft.

Norbia Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. Loc.

Stoner Bros. No. 1 Osage, NW NE SW sec. 18-22-8. T.D. 2,468 ft.; S.D.

Payne County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Pratt, SE cor. sec. 29-19-5. First Wilcox 3,715-20 ft; second Wilcox 3,733 ft.; T.D. 3,802 ft.; flowed 68 bbls. oil, 62 bbls. wtr.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Drlg. 1,361 ft.

Pottawatomie County

J. L. Shaw No. 1 Illinois Life, NW SE NW sec. 1-4-5. Drlg. 1,590 ft.

Seminole County

Ark Royalty Co. No. 1 Kiker, SE SE NE sec. 9-10-7. Wilcox 4,492 ft.; drlg. 4,-503 ft.

J. E. Crosbie, Inc., and Blankenship & Quiett No. 1 Biggers, C N½ N½ NE sec. 9-10-7. Gilcrease 2,547 ft.; Cromwell 2,925 ft.; Mayes 3,675 ft.; Wilcox 4,-170 ft.; T.D. 4,175 ft.; D.&A.

Deaner & Tilley et al No. 1 Wilson, SE SW SW sec. 29-7-6. Drlg. 4,062 ft.

Feimlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8. Sd. 1,460-1,505 ft.; S.O.&G.; S.D. 1,680 ft.

H. E. Kennedy No. 1 Bowlegs, NW NW SE sec. 3-8-7. Loc.

Rudco O. & G. Co. No. 1-A Butner, NE NE SW sec. 15-9-8. T.D. 1,348 ft.; to drill ahead.

Tom Phillips & Kinrow Drlg. Co. No. 1 Chesarney, SE SE NW sec. 7-6-7. T.D. 4,085 ft.; P.B. 2,239 ft.; W.O.C.

Twin State Oil Co. No. 1 Hamm, SW SE SW sec. 24-10-7. Wilcox 4,366 ft.; 2nd Wilcox 4,389 ft.; T.D. 4,400 ft.; D.&A.

Texas County

Allison & Barnhill No. 1 Bingley, SW SW NE sec. 30-2n-18 E.C.M. Rig.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8n-19w. T.D. 1,497 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

D. Malarnee et al No. 2-A DOK ranch, SE cor. sec. 35-2s-13e. O.W.D.D.; T.D. 3,482 ft.; U.R. 8-in. csg.

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12. T.D. 750 ft.; S.D. for casing.

Prairie Investment Co. No. 1 A. Cobb, SW NE NW sec. 19-3s-11e. Viola 30 ft.; drlg. 665 ft.

Carter County

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w. Drlg. 7,634 ft.

W. E. Hammond No. 1 J. Rile, SW SE SE sec. 8-5s-1e. T.D. 552 ft.; S.D.

Texas Co. et al No. 1-B Cathey, SE NE NE sec. 6-5s-1w. O.W.W.D.; drlg. 4,-205 ft.

Comanche County

William Davis No. 1 Aetna Life Ins. Co., NE cor. sec. 22-2-15w. T.D. 160 ft. in shale; S.D.

Cotton County

English Drlg. Co. No. 1 Wilson, NW NW SE sec. 7-4s-11w. T. D. 1,514 ft.; S.D.

Harmon County

Lloalko Trust, Ltd. No. 1 Cosmos, SE SE SW sec. 14-3n-25w. T.D. 2,870 ft.; S.D. for D.P.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w. Granite Wash 1,912 ft.; S.O.; drlg. 2,140 ft.

W. A. Delaney No. 1 Mock, C NE SW sec. 32-1n-20w. Drlg. 2,400 ft.

A. H. Jackman No. 1 fee, SW SW SW sec 27-1s-24w. T.D. 2,685 ft.; junked hole; abd.

J. Ben Russell No. 1 Daniel, NW NE SE sec. 13-3-20w. T.D. 1,482 ft.; S.D.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w. T.D. 3,004 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w. Sd. 1,525-57 ft.; T. D. 2,212 ft.; setting 5 3/16-in. csg. with packer.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-3w. T.D. 2,202 ft.; S.D.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 12-2s-4e. Arbuckle L. 1,552 ft.; drlg. 1,938 ft. in L.

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6. T.D. 116 ft.; S.D.

Shell Pet. Corp. No. 1 Illinois Bankers Life, NW SE NE sec. 10-2s-7e. Hunton 400 ft.; no show; Sylvan 624 ft; Viola 813 ft.; Bromide 1,210 ft.; drlg. 1,549 ft.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; perforated csg. at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perforation; W.O.C.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. Drlg. 930 ft.

Sinclair Prairie Oil Co. No. 1 Stockton SE SE SW sec. 26-6s-2w. T.D. 8,565 ft.; S.D. for casing.

Marshall County

Helmerich & Payne No. 1 Tallaferro, NW SE SW sec. 26-5s-5e. Drlg. 3,015 ft.

Sherril & Rounds No. 1 Taylor, SW NE NE sec. 30-7s-7e. T.D. 770 ft.; U.R.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 3,-560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. T.D. 1,497 ft. Fsg.

T. H. McCasland et al No. 1 Hildebrand, SW SE NE sec. 1-3s-7w. O.W.D.D.; M.I.M.

Ed Parson No. 1 Olson, C SW SW sec. 21-2n-8w. Location.

Tillman County

Rochelle Bernheimer No. 1 Tate, NE NE NW sec. 16-1s-19w. T.D. 2,602 ft.; S.D. for machine.

Gulf Oil Corp. et al No. 1 McWilliams, NW SW SW sec. 15-3s-17w. Drlg. 5,006 ft.

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. T.D. 5,127 ft. Fsg.

Johnson, Young & Mitchell No. 1 Donahoe, SW NW NW sec. 7-4s-17w. Drlg. 2,998 ft.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. T.D. 610 ft.; S.D.

Shirley, Clum et al No. 1 Moricie, NW NW SE sec. 16-4s-14w. T.D. 1,331 ft.; S.D.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. T.D. 2,150 ft.; S.D.

ARKANSAS

Bradley County

Phillips Pet. Co. No. 1 C. H. Murphy et al, NW cor. NW NW sec. 12-17-11. Cg. red sh. 4,759 ft.

Cleveland County

A. B. Diffie No. 1 L. C. Ross, 330 ft. S and W, NE cor. SW NE sec. 11-11-11. 12-in. cmt. 101 ft.; T.D. 200 ft.; W.O. C.S.

R. L. Saxon No. 1 Tipton, SE cor. SW NE sec. 13-11-12. Drk.

Dallas County

Kel-Mac Leg. & Royalty Co. No. 1 Owens, sec. 26-10-16. Washing to bottom.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S. 30 ft. E. NW cor. SW NE sec. 14-11-26. R.U. and W.O.O.

LaFayette County

A. M. Nesley No. 1 Meek, 330 ft. S and W, NE cor. NE NW sec. 35-19-25. R.U.

Loanoke County

J. F. Russell No. 1 J. T. Gunter, 444 ft. N, 577 ft. W, SE cor. sec. 17-5n-10w. Drk.

Miller County

Deep Rock Oil Corp. No. 1 Williams, NW cor. SW NW sec. 6-16-25. Cg. 4,226 ft.

McClanahan et al No. 1 Miller Ld. & Lbr. Co., SW cor. sec. 2-18s-28w. Drlg. 50 ft.

Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. Drlg. 2,949 ft.

Ouachita County

Carnes & Harrell No. 1 Dunn & Robinson, new loc., 440 ft. S, 440 ft. E, NW cor. NW SE sec. 7-12-19. T.D. 2,415 ft. cor. depth; S.D.; W.O.

J. E. Crosbie No. 16 Sewell, C W½ SW NE sec. 35-15-15. Digging pits.

J. M. Farriss No. 1 Dean, NE SE NW sec. 16-15-17. Old T.D. 2,907 ft.; prep. to D.D.

Lion Oil Ref. Co. No. 1 Reynolds, C E½ SE NE sec. 28-15-15. Shot csg. 4,787-4,800 ft. and 4,824-44 ft.; swbd. S.W. and little oil.

Phillips Pet. Co. No. 1 Arnold, 660 ft. S and 330 ft. E, NW cor. NE sec. 27-15-15. Cmt. 9-in. 4,914 ft.; T.D. 5,087 ft.; W.O.C.S.

Phillips Pet. Co. No. 1 Cheatham, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. Sdtkd. rotary slip; T.D. 4,910 ft.; W.O.

Phillips Pet. Co. No. 1 L. Harriss, 660 ft. N and 330 ft. W, SE cor. SW NE sec. 28-15-15. Comp.; flw. 5,000,000 ft. gas; 20 bbls. white gasoline; 18 hrs.; 31/64-in. ck.; T.D. 4,807 ft.

John Pugh No. 1-A P. T. Hildebrand, 660 ft. N and 330 ft. W, SE cor. sec. 28-15-15. Shot csg. 4,880-4,906 ft.; set pkr. 4,918 ft. and tstd. S.W.; T.D. 4,934 ft.

O. F. Whittaker, Tr., No. 1 S. Howard, 600 ft. E and 150 ft. N, SW cor. NW NE sec. 20-12-16. Cg. 2,355 ft.; corrected depth.

Pulaski County

A. L. Kilselman No. 1 fee, 330 ft. N and W, SE cor. SE SW sec. 2-1s-13w. 13-in. cmt. 102 ft.; T.D. 200 ft.

Union County

Ark.-Southern Oil Co. No. 1 M. H. Simmons, NW cor. NW NE sec. 15-18-13. Drk.

J. C. Buckbee No. 2 Ezzell, SW cor. NE NW sec. 13-17-15. Cg. 5,602 ft.

Don R. Keever No. 1 Slaughter, 330 ft. N and W, SE cor. sec. 9-17-16. Cg. 3,199 ft.

Marine Oil Co. No. 1 Simmons, 350 ft. S and W, NE cor. SE NW sec. 10-18-18. Drk.

McCresslen Oil Co. No. 2 D. Norman, NE cor. NE SE sec. 3-18-13. W.O. jack to pump. 3.55¢ ft.

Phillips Pet. Co. No. 1 Morgan, C Lot 1, S½ sec. 18-18s-17w. Dldg. drk. and M. I.M.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

American Lib. Oil Co. No. 2 Norton, 330 ft. N and W, SE cor. NE NE sec. 17-23-15. Drlg. 2,273 ft.

Ark.-La. Gas Co. No. 20 Rodessa O. & L. Co., NW cor. SW sec. 23-23-16. Did not flow; will acidize; T.D. 5,995 ft.

Ark.-La. Gas Co. No. 21 Rodessa O. & Ld. Co., 296 ft. N, 330 ft. E SW cor. sec. 23-23-16. Drlg. 5,229 ft.

Ark.-La. Gas Co. No. 22 Rodessa O. & Ld. Co., 330 ft. S and 328 ft. W, NE SE NE sec. 23-23-16. Drlg. 4,154 ft.

Ark.-La. Gas Co. No. 23 Rodessa O. & Ld. Co., 330 ft. N and E, SW cor. NW NE sec. 23-23-16. Drlg. 4,079 ft.

Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Loc.

Blackwell O. & G. No. 2 Neugent, 330 ft. S and 330 ft. E NW cor. NE SE sec. 8-23-15. Comp. July 17; flw. 22 B.P.H.; ½-in. tbg. ck.; T.P. 1,250 lbs.; C.P. 1,-600 lbs.; T.D. 6,090 ft.

S. P. Borden No. 2 K.C.S., NW cor. SW sec. 23-23-16. Tstg. after perf. csg.

Haynes Prod. Co. No. 7 Otwell, 330 ft. N and E, SW SE SE sec. 15-23-16. Comp.; flw. 90 B.P.H.; open tbg.; T.D. 5,998 ft.

Haynes Prod. Co. No. 8 Otwell, 400 ft. S and 330 ft. E, NW SE SE sec. 15-23-16. Comp.; flw. 108 B.P.H.; open tbg.; T.D. 5,995 ft.

J. Edw. Jones No. 1 Rockefellow, Lot 3, Blk. 21, sec. 23-23-16. Drlg.

Lacey et al No. 2 Tyson, 487 ft. S. 789 ft. W, NE SE NW sec. 24-23-16. Drlg. 5,600 ft.

Lion Oil Ref. Co. No. 2 Wynn, 295 ft. N, 307 ft. E. SW cor. sec. 9-23-15. 16-in. cmt. 161 ft.; W.O.C.S.

Louisiana Oil Ref. Corp. No. 1 Ratcliff, 330 ft. S and E. NW cor. sec. 16-23-15. 16-in. cmt. 237 ft.; W.O.C.S.

R. W. Norton No. 4 Atkins Unit, 320 ft. N and 441 ft. E, SW SE sec. 7-23-16. Drk.

R. W. Norton No. 5 Atkins Unit, 660 ft. S and E. NW NW NE sec. 18-23-15. Drlg. 4,108 ft.

R. W. Norton No. 4 Foscue Unit, SE cor. sec. 20-23-16. Comp.; flw. 15 B.P.H.; 3/16-in. tbg. ck.; T.D. 5,991 ft.

R. W. Norton No. 5 Foscue Unit, sec. 29-23-16. 13-in. cmt. 240 ft.; W.O.C.S.

R. W. Norton No. 6 Foscue Unit, 656 ft. N and W, SE cor. of Foscue tract, sec. 20-23-16. Drlg. 3,964 ft.

R. W. Norton No. 5-A Caddo Lv. Bd., 2,-600 ft. N and 600 ft. W, C sec. 28-23-16. Flw. through csg.; will C.O.; T.D. 5,980 ft.

R. W. Norton No. 7-A Caddo Levee Board, 330 ft. S, 1,980 ft. W, NE cor. sec. 28-23-16. Drlg. 4,444 ft.

R. W. Norton No. 2 Slattery, 1,990 ft. S, 656 ft. E, NW cor. sec. 28-23-16. Drlg. 4,500 ft.

R. W. Norton No. 5 Tyson heirs, 1,155 ft. N. 165 ft. W, SE cor. NW¼ sec. 13-23-16. Drlg. 5,098 ft.

Phillips No. 3 Adams, 815 ft. S and 1,707 ft. E, NW cor. sec. 17-23-16. Cg. 6,045 ft.

Phillips Pet. Co. No. 4 Adams, 330 ft. N and W, SE NE NW sec. 17-23-15. Loc.

Phillips Pet. Co. No. 1 Innerstate Ld. & Royalty Co., 330 ft. S and E, NW cor. NE NW sec. 16-23-15. 10-in. cmt. 2,313 ft.; W.O.C.S.

Phillips No. 1 Cora Woods, 330 ft. S and W, NE cor. W 60 ac., N½ NE¼ sec. 17-23-15. Drlg. 3,431 ft.

Phillips No. 6 Norton Est., 1,664 ft. E and 1,794 ft. S, NW cor. sec. 17-23-15. 7-in. cmt. 6,030 ft.; W.O.C.S.

Phillips Pet. Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15. Cmt. 7-in. 6,025 ft.; W.O.C.S.

Phillips No. 1 J. T. Smith, 330 ft. S and 330 ft. W NE cor. SW SE sec. 5-23-16. Cmt. 7-in. 5,876 ft.; W.O.C.S.

Phillips No. 2 Cora Woods, 330 ft. N and E, SW cor. N½ NE sec. 17-23-15. Loc.

Phillips No. 3 Cora Woods, 330 ft. N and E, SW cor. NE NE sec. 17-23-15. Loc.

Red Iron Drlg. Co. No. 1 Means, 330 ft. N and E, C sec. 9-23-15. Drlg.

Regent Oil Corp. No. 1 Tyson, 104 ft. S, 104 ft. E NW cor. SE SW sec. 24-23-16. Comp.; flw. 6 bbls. dist. per hr. and 20,000,000 ft. gas; ⅝-in. tbg. ck.; T.D. 6,005 ft.

Reinke et al No. 1 Fitts, 363 ft. S, 1,308 ft. E, NW cor. SW NW sec. 23-23-16. Drlg. 2,200 ft.

H. W. Snowden No. 8 Phillips, C Lot 7, Blk. 47, townsite, sec. 23-23-16. Used 3,-000 gals. acid; tstg.

Snowden & Anding No 1 Taylor, C Lot 7, Blk. 46, townsite, sec. 23-23-16. Drlg. 4,-935 ft.

Standard Oil Co. of La. No. 5 J. Caldwell, 330 ft. S and W, NE cor. SW SE sec. 12-23-16. Drlg. 5,884 ft.

Standard Oil Co. No. 6 J. Caldwell, 330 ft. N and E, SW NE SE sec. 12-23-16. R.U.

Standard Oil Co. No. 7 J. Caldwell, 610 ft. N, 660 ft. W, SE sec. 12-23-16. R.U.

Standard No. 17 Lawton, 100 ft. N and 764 ft. W, SE cor. NW sec. 14-23-16. Drlg. 5,616 ft.

Standard No. 4-A M. L. Pitts, 330 ft. N and W, SE sec. 11-23-16. T.D. 6,022 ft.; went on gas-lift equipment.

Simplex Oil Co. No. 3 Natalie, 1,175 ft. N and 300 ft. W SE cor. W½ SE¼, sec. 16-20-15. T.D. 2,205 ft.; tested S.W.; P.B. to 2,199 ft.; W.O.

Tri State O. & G. Co. No. 2 Hall, Lot 12, Blk. 29, sec. 23-23-16. 10-in. cmt. 2,073 ft.; W.O.C.S.

United No. 3 Harris, NE cor. sec. 15-23-16. Comp.; flw. 30 B.P.H.; ½-in. tbg. ck.; T.D. 6,017 ft.

United Gas No. 2 Lindsay Marcund Unit, 133 ft. S and W NE NW NW sec. 24-23-16. Drlg. 5,930 ft.

United No. 2 Mitchell, SW cor. of lse., sec. 20-23-16. Perf. csg. and acidized; tstg.

United Gas No. 9 M. L. Pitts Unit, 113 ft. N, 111 ft. W, SE SW SW sec. 13-23-16. 7-in. stuck 6,015 ft.

United Gas No. 4 N. S. Spearman Unit, 659 ft. S, 650 ft. W. NE NW sec. 18-23-15. 7-in. cmt. 6,055 ft.; W.O.C.S.

United Gas No. 1 Teamer, 133 ft. S. 111 ft. E, NW NE NW sec. 24-23-16. Drlg. 4,701 ft.

United Gas No. 6 Thomas Unit, 319 ft. N, 329 ft. E, SW NE NW sec. 23-23-16. Milling on 5-in.; T.D. 6,000 ft.

United Gas No. 7 Thomas Unit, sec. 22-23-16. Drlg. 4,687 ft.

United Gas No. 8 Thomas Unit, Blk. 7, sec. 23-23-16. Drlg. 5,475 ft.

United Gas No. 9 Thomas Unit, 330 ft. N and 332 ft. W. SE cor. NE NW sec. 23-23-16. Drlg. 403 ft.

United Gas No. 23 Rodessa O. & L. Co., 319 ft. N, 423 ft. W, SE NW NW sec. 23-23-16. Comp.; flw. 26 B.P.H.; ¼-in. tbg. ck.; T.D. 6,000 ft.

United Gas No. 574-1 fee, 660 ft. N and W, SE cor. sec. 16-23-16. Cg. L. 5,789 ft.

United Gas No. 3 Young, 612 ft. N, 655 ft. W, SE cor. sec. 21-23-16. Drlg. 2,-660 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Dunn and Olsen, C N½ NW¼ sec. 15-16-10. Loc.

J. W. Leonard No. 1 Courtney, 330 ft. N and W, SE cor. sec. 5-17-7w. Cmt. 9-in. 2,450 ft.; W.O.C.S.

Rondeau et al No 1 Locke, 150 ft. S and 1,495 ft. W, NE cor. sec. 9-15-10. Drlg.

A. C. Walters No. 1 D. B. Davis, C SE SW sec. 3-16-9w. Drlg.

Bossier Parish

Geo. H. Bringhurst et al No. 2 Buckley, 1,000 ft. N, 330 ft. W, SE cor. sec. 35-21-13. T.D. 300 ft.; S.D. for wtr.

Premier Inv. Co. No. 2 Weaver, NW SE NW sec. 14-19-11. Comp.; pmpd. 50 B. P.D.; T.D. 434 ft.

Premier Inv. Co. No. 2 Wyche, NW cor. sec. 14-19-11. Loc.

Premier Inv. Co. No. 3 Weaver, NW SE NW sec. 14-19-11. Pmpd. 25 B.P.D.; T.D. 424 ft.

Producers O. & G. Co. No. 1 Webb, C W½ SW sec. 22-17-13. Cg. 4,730 ft.

Tidwell et al No. 1 Nattin, 300 ft. S and W, C sec. 15-23-14. S.D. 2,650 ft.

Triangle Drlg. Co. No. 1-E Skannal, 660 ft. N and 2,640 ft. W, SE cor. sec. 23-17-12. Blew out at 4,388 ft.; tstd. 63,190,-000 ft. gas.

United Gas Pub. Ser. Co. No. 1-D H. L. Skannal, 660 ft. S, 561 ft. W, NE cor. SE sec. 22-17-12. P.B. 5,165 ft. and drlg. out to 5,182 ft.; tstg.; old T.D. 5,315 ft.

Caddo Parish

S. Bender No. 2 Starr, SW SW sec. 26-20-16. T.D. 2,256 ft.; blg. to test.

Calatex O. & G. Co. No. 3 Scott, 1,038 ft. W. 807 ft. N. SE cor. sec. 5-16-16. T.D. 2,797 ft.; P.B. 2,460 ft.; W.O.C.S.

Calatex O. & G. Co. No. 2 Hudson, 1,319 ft. N and 913 ft. E, SW cor. sec. 5-16-16. Drk.

Calatex O. & G. Co. No. 1 Whitworth, 770 ft. S, 860 ft. E, NW cor. SW¼ sec. 10-16-16. Surf. pipe set 150 ft.; W.O.C.S.

W. D. Chew No. 1 Spell, SW cor. SE SW sec. 29-21-15. Drlg. 895 ft.

DeSoto O. & G. Co. No. 1 Herndon, sec. 17-21-15. S.D. 2,500 ft.

Falcon Oil Co. No. 1 J. E. Cupples, 500 ft. S and 350 ft. W, NE cor. sec. 24-16-13. 16-in. set 180 ft.; W.O.C.S.

Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. R.U.

Hillman et al No. 2 Noel Est., 530 ft. S and 330 ft. W, NE cor. sec. 12-20-16. Comp.; pmpd. 5 bbls. oil and some S.W.; T.D. 2,245 ft.

J. B. Hutchinson No. 2 Storey-Phillips, SW cor. NE NW sec. 28-16-13. 12-in. cmt. 41 ft.; W.O.C.S.

Juan et al No. 1 P. Hobbs, SE cor. NW NW sec. 28-21-15. Drk.

Maja Oil Co. No. 1 Mathew, NE SE sec. 10-20-15. Loc.

Bill Morefield et al No. 1 Stokely, 745 ft. S and 100 ft. E, C sec. 5-20-16. Rmg. 932 ft.

Morris & Wooley No. 1 Pender, NW cor. SW sec. 11-20-15. Tstd. S.W.; W.O. 2,-220 ft.

Prairie River Synd. No. 1 Hutchinson, 330 ft. N and E. SW NW sec. 15-15-12. Drlg. 4,226 ft.; top anhy. 3,985 ft.

Simplex Oil Co. No. 4 Natalie, 200 ft. N, 250 ft. W, SE NW SE sec. 10-20-15. 10-in. set 105 ft.; W.O.C.S.

Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15. Cg. 4,400 ft.

Stanolind O. & G. Co. No. 102 Dillon, 330 ft. S and W NE cor. sec. 14-21-15. Pumped 10 B.P.D.; T.D. 1,699 ft.

Stanolind O. & G. Co. No. 104 Dillon hrs., sec. 13-21-15. T.D. 1,480 ft.; 6-in. cmt. 1,464 ft.; W.O.C.S.

Stanolind O. & G. Co. No. 105 Dillon hrs., NE cor. sec. 14-21-15. Loc.

Stanolind O. & G. Co. No. 106 Dillon hrs., NE cor. sec. 14-21-15. Loc.

United Gas No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W. NE cor. sec. 16-18-16. S.D. for wtr. 5,911 ft.

Caldwell Parish

Ziegen No. 7 La. Cen. Lbr. Co., sec. 10-12-2e. T.D. 1,763 ft.; D.&A.

Claiborne Parish

S. E. Langford et al No. 1 White, cen. S½ NE SW sec. 26-21-8. R.U.

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. T.D. 4,416 ft.; rmg.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Drlg. 8,014 ft.

De Soto Parish

J. W. Adams No. 1 Jenkins Est., 241 ft. W, 274 ft. S, NE cor. sec. 3-12-12. Drlg. 50 ft.

J. E. Carlson No. 1 A. P. Garland, 250 ft. S and E, NW cor. SW sec. 7-14-14. S.D.; rig rep.; T.D. 1,200 ft.

J. G. Carson No. 1 C. J. McMichael, sec. 26-13-15. Drk.

Jai Drlg. Co. No. 8-A Scales, 1,370 ft. N, 110 ft. E, SW cor. sec. 36-13-12. R.U.

R. C. Payne No. 1 Harris, sec. 11-13-14. Fsg. D.P.; T.D. 2,200 ft.

Grant Parish

Acadian Prod. Corp. B-2 Swope, 330 ft. S of No. 7. Cmt. 6-in. 1,591 ft.; W.O.C.S.

Perry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. Cmt. 6-in.; W.O.C.S.

W. B. Rhineck, Tr., No. 1 Swope, SW cor. NW SW sec. 16-9-1e. Comp.; pmpd. 5 B.P.D.; T.D. 1,601 ft.

Theo Davis et al No. 1 Barrett, NE cor. S½ SW NE sec. 19-9-1e. S.D. 850 ft.

La Salle Parish

Montague Oil Co. No. 7-A Zenonia Lbr. Co., NE cor. sec. 10-9-1e. Tstd. S.W. and W.O. 1,520 ft.

Morehouse Parish

J. B. Collins et al No. 1 E. M. Clarke, SE NE sec. 10-20-7e. S.D. 600 ft.

J. E. Ferrell No. 25 State, SW cor. sec. 20-22-4e. Comp.; 1,000,000 ft. gas; R.P. 1,010 lbs.; T.D. 2,135 ft.

J. E. Farrell No. 26 State, 2,053 ft. S, 986 ft. E, NW cor. sec. 20-22-4e. 5-in. set 2,088 ft.; W.O.C.S.

J. E. Farrell No. 27 State, SW cor. sec. 17-22-4e. Drlg. 2,000 ft.

J. E. Farrell No. 28 State, NW cor. sec. 17-22-4e. Drlg. 160 ft.

J. E. Farrell No. 30 State, NW cor. sec. 12-20-4e. Loc. abd.

J. E. Farrell No. 31 State, SW cor. sec. 20-4-3e. R.U.

J. E. Ferrell No. 32 State, SW cor. sec. 36-21-4e. Comp.; 2,000,000 ft. gas; T.D. 2,214 ft.

J. E. Ferrell No. 34 State, SE cor. sec. 14-20-4e. R.U.

United Gas Co. No. 39 Crossett, NE cor. sec. 25-22-4e. Drlg. 100 ft.

United Gas No. 40 Crossett, NW cor. sec. 30-22-5e. Drk.

United Gas No. 28 Tensas, sec. 3-21-4e. Comp.; 4,500,000 ft. gas; 920 lbs. R.P.; T.D. 2,176 ft.

United Gas No. 29 Tensas, sec. 17-22-4e. T.D. 2,180 ft.; tstg.

United No. 17 Tensas, 1,320 ft. N and 1,-317 ft. W, SE cor. sec. 26-22-4e. Comp.; 2,000,000 ft. gas; 850 lbs. R.P.; T.D. 2,-272 ft.

United No. 18 Tensas, 1,320 ft. S and 1,317 ft. W, NE cor. sec. 35-22-4e. Cmt. 6-in. 2,132 ft.; W.O.C.S.

United Gas No. 30 Tensas, 1,313 ft. W, 664 ft. S, NE cor. sec. 3-21-4e. 6-in. cmt. 2,106 ft.

Natchitoches Parish

Ivan A. Allen No. 1 Simpson, sec. 12-7n-7w. Loc.

C. D. Morrison No. 1 Moffitt, 250 ft. N, 250 ft. W, SE cor. sec. 19-10-10. 10-in. set 110 ft.; W.O.C.S.

Union Pet. Co. No. 2 DeBlieux, 2,395 ft. E, 150 ft. S of W cor. sec. 33-10-7w. 10-in. cmt. 202 ft.; W.O.C.S.

Ouachita Parish

Innerstate Nat'l Gas Co. No. 49 fee, 2,987 ft. W, 210 ft. N, NE cor. sec. 45-19-3e. 12-in. cmt. 194 ft.; W.O.C.S.

Red River Parish

Bird Oil Co. No. 1 F. H. King, 220 ft. N and E, SW cor. NW NE sec. 34-13-11. Drk.

Byrd Explo. Co. No. 1 Waller, 1,570 ft. N and 1,520 ft. W, SE cor. sec. 20-13-11. Arrg. recmt. 6-in.; T.D. 2,456 ft.

T. G. Shaw No. 1 Teakell, SE cor. SE SW sec. 34-13-10. T.D. 2,830 ft.; W.O. pmpg. jack.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Drlg. 2,301 ft.

J. S. Morrisey No. 1 Jones, 1,293 ft. N, 636 ft. E, SW cor. sec. 15-18-7e. Drlg. 2,276 ft.

Sabine Parish

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. T.D. 1,690 ft.; will acidize.

F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Drlg. 3,950 ft.

Pearl Oil Co. No. 6 Crawford, C SE SE sec. 20-9-13. Milled out of csg. at 2,400 ft.; new depth 2,800 ft.; old depth 3,-472 ft.; rep. rig.

J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 5-18-13. T.D. 2,069 ft.; will acidize.

O. S. McKnelly No. 3 Henderson, sec. 29-9-13. 6-in. leaked; cmt. 4-in.; T.D. 1,-557 ft.

A. C. Scott No. 1 Bowman Hicks, 660 ft. S and 330 ft. E, NW cor. NW SW sec. 23-9-13. W.O.S.R.

A. H. Tarver No. 2 Baker, NW cor. NE sec. 36-8-12. Drlg. 4,000 ft.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE cor. sec. 30-12-10e. T.D. 882 ft.; S.D.; W.O. 1,000,000 ft. gas; 300 ft. S.W.; will D.D.

H. M. Jones et al No. 1 fee, SE SE 32-12-10e. T.D. 650 ft.; S.D.

Union Parish

Federal Pet. Co. No. 1 fee, 330 ft. S and W, NE cor. sec. 34-21-3e. Drlg. 3,428 ft.

Federal Pet. Co. No. 2 fee, 330 ft. S and W, NE cor. sec. 5-19-3e. Drlg. 2,088 ft.

Innerstate Natl. Gas Co. No. 48 fee, SE sec. 27-20-3e. Drlg. 893 ft.

So. Carbon Co. No. 11 Grayling, 1,320 ft. S, 1,840 ft. E, NW cor. sec. 9-21-4e. Drk.

So. Carbon Co. No. 69 fee, 660 ft. S and E, NW cor. sec. 9-21-4e. Drk.

United Carbon Co. No. 1 Nolan, 660 ft. N and E, SW cor. sec. 4-20-3e. T.D. 2,043 ft.; cmt. 6-in.; W.O.C.S.

Webster Parish

W. D. Ambrose No. 1 T. Crichton, 330 ft. N and E. SW cor. SW NW sec. 36-18-9. Drlg. 250 ft.

J. P. Evans No. 1 Johnson, 501 ft. N, 200 ft. E. SW cor. NW SW sec. 36-18-9. Set 10-in. 1,924 ft.; W.O.C.S.

Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. 10-in. set 90 ft.; W.O.C.S.

Ohio Oil Co. No. 1 R. L. Holloway, 6[illegible] ft. S, 760 ft. W. C sec. 23-21-10. Cmt. 7-in. 8,483 ft.; T.D. 8,493 ft.; W.O.C.S.

L. R. Skidmore No. 1 Barnett, sec. 29-17-9. S.D. for wtr. 1,026 ft.

West Carrol Parish

Lahman & Insley No. 1 C. H. Neely, 330 ft. N and W, SE cor. SE SW sec. 19-20-11e. Drlg. 600 ft.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 12 State-Bay St. Elaine, sec. 20-22s-18e. Drlg. sh. 6,371 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 34 Watkins, sec. 7-12s-12w. T.D. 5,165 ft.; rng. 7-in. csg.

Shell Pet. Corp. No. 35 Watkins, sec. 8-12s-12w. Drk.

Caillou Island—Terrebonne Parish

Texas Co. No. 37 State, 1,492 ft. N, 362 ft. W, SE cor. sec. 18-23s-20e. 13⅜-in. csg. 1,300 ft.; T.D. 3,793 ft.; salt; P.B. 3,690 ft.; sdtkd. 3,042 ft.; drlg. sh. 3,-435 ft.

Cameron Meadows—Cameron Parish

Burton Sutton No. 14 School Land, sec. 16-14s-13w. Drk

Humble-Magnolia No. 17 Cameron Mead-ows, sec. 21-14s-13w. T.D. 5,115 ft.; P.B. 4,200 ft.; sdtkd.; fsg. 4,315 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-10s-2e. Drk.

Humble O. & R. Co. No. 7 Gumble, T.D. 5,684 ft.; 7-in. csg. 5,668 ft.; recovered 28 stands of oil on D.S.T. 5,668-5,701 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. Drlg. sh. 3,948 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e. T.D. 7,613 ft.; P.B. and sdtkd. at 5,010 ft.; T.D. 8,165 ft.; rmg. 8,071 ft.

Garden Island—Plaquemines

Texas Co. No. 19 Garden Isle, sec. 37-22s-33e. T.D. 4,933 ft.; P.B. and S.T.; drlg. sh. 3,144 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 2 Airhart, sec. 14-9s-8w. R.U.

Fohs Oil Co. No. 3 Wasey, sec. 14-9s-8w. Drk.

Texas Co. No. 10 Nickerson fee, sec. 13-9s-8w. T.D. 6,718 ft.; 7-in. csg. 6,718 ft.

Union Sulphur Co. No. 8 Barbe, sec. 11-9s-8w. Drlg. sh. 6,780 ft.

Union Sulphur Co. No. 1 G. S. Cole, sec 12-9s-8w. T.D. 5,285 ft.; flwd. S.W. and gas; S.D.

Union Sulphur Co. No. 1 Kaufman, sec. 13-9s-8w. Drlg. sh. 4,363 ft.

Union Sulphur Co. No. 13 State, sec. 13-9s-8w. Drk.

Union Sulphur Co. No. 15 State, sec. 13-9s-8w. Drk.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 21 Irwin, sec. 12-12s-10w. Drlg. sd. 5,642 ft.

Pure Oil Co. No. 1 "A" Duhon, sec. 29-12s-10w. Drlg. sh. 4,144 ft.

Stanolind O. & G. Co. No. 2 Duhon, sec. 22-12s-10w. Drk.

Stanolind O. & G. Co. No. 23-B Gulf Land, sec. 14-12s-10w. R.U.; (corrected).

Stanolind O. & G. Co. No. 24-B Gulf Ld., sec. 14-13s-10w. R.U.

Sutton Oil Co. No. 5 Duhon, sec. 22-21s-10w. T.D. 3,272 ft.; 7-in. csg. 3,250 ft.; failed to flow; R.U. to pmp.

Texas Co. No. 21 State, sec. 12-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w. Drlg. sh. 6,419 ft.

Jeanette—St. Mary Parish

Herton Oil Co. No. 1 Barrileau, sec. 59-13s-8e. Topped oil sd. 7,220 ft.; T.D. 7,-253 ft.; making D.S.T.

Bayou Mallet—Acadia Parish

Superior Oil Prod. Co. No. 4 Bradley, sec. 37-7s-1e. Drk.

Superior Oil Prod. Co. No. 1 Goss, sec. 13-7s-1e. Abd. 8,404 ft.

Jennings—Acadia Parish

Stanolind O. & G. Co. No. 16 Houssiere-Latrielle, sec. 47-9s-2w. T.D. 7,052 ft.; P.B. 6,200 ft.; drlg. sh. 6,733 ft.

Stanolind O. & G. Co. No. 17 Houssiere-Latrielle, sec. 47-9s-2w. Drk.

Lafitte—Jefferson Parish

Texas Co. No. 5 Lafitte, sec. 20-17s-24e. Drlg. hd. L. 5,756 ft.

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. Drlg. sh. 5,163 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. Drlg. sh. 7,835 ft.

Texas Co. No. 38 State, sec. 38-21s-19e. Top salt 1,355 ft.; drlg. salt 2,521 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Sh. 7,528 ft.; no report.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 5 LaFourche Basin Levee Bd., sec. 11-18s-25e. T.D. 5,100 ft.; P.B. 3,450 ft.; drlg. L. 4,948 ft.

Leesville—LaFourche Parish

Delta Oil Co. No. 1 Constantine, sec. 34-21s-22e. T.D. 5,043 ft.; 7-in. csg. at 5,009 ft.; S.D.

Gulf Oil Corp. No. 11 Allen Land. Drlg. sh. 4,574 ft.

Lincoln Oil Co. No. 2 Constantine, sec. 27-21s-22e. Drlg. sh. 3,915 ft.

Lincoln Oil Co. No. 9 State, sec. 34-21s-2e. T.D. 5,038 ft.; rng. csg.

Texas Co. No. 52 Leesville, sec. 34-21s-22e. Drk.

Texas Co. No. 48 Leesville, sec. 27-21s-22e. T.D. 4,377 ft.; washing over stuck D.S.

Texas Co. No. 52 Leesville, sec. 37-21s-22e. Drk.

Texas Co. No. 53 L.L.&E., sec. 34-21s-22e. Drlg. sd. 5,965 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 3 Sabetier, sec. 54-12s-7e. S.D. salt 3,180 ft.

Crysanthon et al No. 1 Gulf fee, sec. 71-12s-7e. Drk.

Fotadies No. 2 Gulf fee, 400 ft. W of No. 1. T.D. 4,686 ft.; 7-in. csg. 4,665 ft.; L.P. 360 B.P.D.; ¼-in. ck.; T.P. 400 lbs.

Wm. Hellis No. 1 Burke, sec. 25-12s-7e. Drk.

Kitos Oil Co. No. 2-A Sealey, sec. 56-12s-7e. T.D. 4,560 ft.; P.B. to 2,200 ft.; S.D.

Teche Oil Co. No. 1 Schwing, sec. 52-12s-7e. P.B. and sdtkd.; top salt 4,580 ft.; 7in. csg. 4,181 ft.; P.B. and abd. 4,493 ft.

Cheneyville—Rapides Parish

Bowles & Borsodi No. 1 Haas Investment, sec. 53-1s-2e. Cg. sh. 5,872 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 4-B Devilbiss, sec. 11-9s-4w. T.D. 8,905 ft.; attempting to P.B. in sdtkd. hole; drlg. sh. 7,683 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Haas Hirsch, sec. 4-6s-5e. Drk.

St. Martinville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 57-11s-6e. Drk.

Tide Water Oil Co. No. 1 Domengeaux (formerly Coastal Plains Oil Corp.), sec. 57-11s-6e. O.W.D.D.; T.D. 5,841 ft.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 5 United Lands, sec. 15-10s-4e. Drlg. sh. 4,359 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 829 fee, sec. 29-9s-10w. Drlg. sh. 4,466 ft.

Union Sulphur Co. No. 830 fee, sec. 29-9s-10w. T.D. 3,106 ft.; I.P. 550 B.P.D.; ¾-in. ck.

Union Sulphur Co. No. 832 fee, sec. 20-9s-10w. Drk.

Tepetate—Acadia Parish

Continental Oil Co. No. 5-A Homeseekers Dev. Co. T.D. 7,290 ft.; fsg.

Continental Oil Co. No. 6-A Homeseekers Dev. Co., sec. 29-7s-2w. Drk.

Continental Oil Co. No. 1 Houssiere, sec. 33-7s-2w. Drlg. sh. 1,517 ft.

Continental Oil Co. No. 2 Klump, sec. 34-7s-2w. Spudded.

Continental Oil Co. No. 4-A Welch, sec. 28-7s-2w. Drlg. sh. 2,132 ft.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 1 fee, sec. 34-10s-12w Cg. sd. 4,410 ft.

White Castle—Iberville Parish

Shell Pet. Corp. No. 3 Shingle, 650 ft. S. 600 ft. E of NW cor. sec. 12-11s-12e. Drlg. sh. 5,950 ft.

S. LOUISIANA WILDCATS

Allen Parish

Humble O. & R. Co. No. 2 Bell est., 933 ft. N and E, sec. 28-6s-7w. Drlg. sh. 7,659 ft.

Avoyelles Parish

Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Union Sulphur Co. No. 1 Emile & Wurmnest, sec. 16-11s-8w. Drk.

Calcasieu Parish

Buhler Oil Co. No. 2 Faisst, sec. 26-8s-10w. Old TD. 4,412 ft.; S.D. 3,755 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Hebert, sec. 13-12s-9w. Drlg. sh. 8,993 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 49-8s-2e. T.D. 1,469 ft.; rng. 10-in. csg.

Cavalier Oil Co. No. 1 Young, sec. 62-4s-2w. Drk.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Iberia Parish

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e. T.D. 8,610 ft.; P.B. to 8,483 ft.; perf. from 8,460-66 ft.; P.B. to 8,183 ft.; drlg. sh. 7,250 ft. in sdtkd. hole.

Jefferson Lake Oil Co. No. 323 State Lake Piegneur. T.D. 5,690 ft.; P.B. 3,000 ft.; drlg. sh. 3,100 ft.

Texas Co. No. 1-B State, Vermillion Bay, sec. 16-15s-6e. Drlg. sdy. sh. 2,937 ft.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Lacassine, sec. 20-11s-5w. T.D. 9,844 ft.; P.B. 9,253 ft.; perf. csg. 9,150-62 ft.; swbd. S.W.; P.B. to 8,950-60 ft.; flwd. S.W.; P.B. 8,664 ft.; tstd. S.W.; P.B. 8,422 ft.; abd.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. T.D. 7,880 ft.; fsg.

Strake Oil Corp. No. 1 Onesia Miller Est., sec. 7-9s-5w. T.D. 8,505 ft.; will probably abd.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunez, sec. 19-13s-12e. Drlg. sh. 4,084 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec 5-12s-5e. T.D. 7,522 ft.; top salt 7,492 ft.; P.B. to 2,690 ft.; T.D. sdtkd. hole 5,200 ft.; fsg.

St. Martin Parish

Texas Co. No. 2 State, sec. 14-10s-9e. Drlg. sh. 7,249 ft.

Texas Co. No. 3 St. Martins Land, sec. 17-8s-7e. Drlg. 8,845 ft.

St. Mary Parish

Mike Hogg et al No. 1 Laws Realty Co., Inc., sec. 30-13s-10e. Drlg. sh. 3,108 ft.

Terrebonne Parish

J. B. Beck et al No. 1 Realty Operators, sec. 103-17s-17e. Drlg. sd. 1,859 ft.

Humble O. & R. Co. No. 1 Continental Land & Fur Co., sec. 30-17s-14e. Cg. sd. 6,598 ft.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 10,960 ft.; 7-in. csg. 10,947 ft.; drlg. plug.

Delcambre & Shelton No. 1 Delcambre, sec. 63-12s-6e. S.D. 2,708 ft.

Del-Shell Exploration Co. No. 1 Landry hrs., sec. 1-13s-4w. Drlg. sh. 2,000 ft.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-15-1e. Bldg. foundations.

TEXAS

Week Ending July 25

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 18-X Paine, Wm. C. White Sur. T.D. 4,142 ft.; 7-in. csg. 3,974 ft.; W.O.C.

Hastings—Brazoria County

Humble O. & R. Co. No. 4 Nelson, sec. 36, H.&T.B. Sur. R.U.

Humble O. & R. Co. No. 6 Cannon, H.T.& B. Sur. T.D. 6,060 ft.; 7-in. csg. 5,843 ft.; I.P. 32 B.P.H.; ¼-in. ck.; T.P. 900 lbs.; C.P. 850 lbs.

Stanolind O. & G. Co. No. 1-B Avitts, H.T.&B. Sur. No. 29. 10¾-in. csg. 1,857 ft.; T.D. 1,865 ft.

Stanolind O. & G. Co. No. 1 Wm. R. Curkett, H.T.&B. Sur. No. 35. 10¾-in. csg. 1,863 ft.; T.D. 1,871 ft.

Stanolind O. & G. Co. No. 1 Elliott, Wm. Henry Sur. T.D. 6,065 ft.; rng. 7-in. csg.

Stanolind O. & G. Co. No. 1 Reichardt, H.T.&B. Sur. No. 29. Drlg. sh. 5,832 ft.

Stanolind O. & G. Co. No. 6 Williams, A.C.H.&B. Sur. T.D. 6,080 ft.; 7-in. csg. 6,060 ft.

Danbury—Brazoria County

Humble O. & R. Co. No. 1 Moller, S. A. Towsey Sur. Drlg. sh. 5,225 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Armstrong Plantation fee, Polly and Chance Sur. Drlg. sh. 9,240 ft.

Manvel—Brazoria County

Texas Co. No. 2-B Helene J. Way, T. Spraggins Sur. T.D. 4,200 ft.; P.B. 4,120 ft.; 7-in. csg. 4,110 ft.

Texas Co. No. 22 Houston Oil Field Assn., A.C.H.&B. Sur. No. 1. T.D. 5,770 ft.; 7-in. csg. 5,769 ft.; I.P. 393 B.P.D.; ¼-in. ck.; T.P. 620 lbs.; C.P. 620 lbs.

Texas Co. No. 2 Richards, Lot 6. H.T.&B. Sur. Drlg. sh. 1,140 ft.

Texas Co. No. 8 Houston Oil Field Assn., A.C.H.&B. Sur. No. 91. Drk.

Texas Co. No. 3 Dawson, H.T.&B. Sur. No. 23. Drk.

Texas Co. No. 14 Abrams, George Tenille Lge. R.U.

West Columbia—Brazoria

Sterling O. & R. Co. No. 1 J. A. Phillips, Geo. Kennilee Sur. Drk.

Texas Co. No. 85 Hogg, Geo. Tenille Lge. Drlg. sh. 3,731 ft.

Heyser—Calhoun County

Al Buchanan No. 1 P. H. Welder, D. L. Palmer Sur. Drlg. sh. 1,100 ft.

Humble O. & R. Co. No. 2 Welder, Jose Maria Rios Sur. T.D. 5,501 ft.; prep. to make D.S.T.

Humble O. & R. Co. No. 1-B E. H. Welder, A. Sisneros Sur. Drk.

Portilla Oil Co. No. 1 P. H. Welder, D. Felipe Durmont Sur. Drk.

Anahuac—Chambers County

Gulf Oil Corp. No. 3 Knowles. T.D. 7,100 ft.; oil sd.; rng. csg.

Humble O. & R. Co. No. 1 Boyt, sec. 44, H.&T.C. Sur. Drlg. hd. L. 6,671 ft.

Humble O. & R. Co. No. 11 Engels, H.& T.C. Sur. T.D. 7,080 ft.; 7-in. csg. 7,051 ft.

Humble O. & R. Co. No. 7 Tyrell, sec. 52, H.&T.C. Sur. T.D. 4,850 ft.; P.B. 4,190 ft.; sdtkd. 4,258 ft.; drlg. sh. and L. 6,553 ft.

Humble O. & R. Co. No. 2-B White, James McGahey Sur. T.D. 7,113 ft.; 7-in. csg. 7,080 ft.; I.P. 7 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 12 White, James McGahey Sur. T.D. 7,115 ft.; 7-in. csg. 7,085 ft.; I.P. 4 B.P.H.; ¼-in. ck.

Sun Oil Co. No. 16 White, James McGahey Sur. Drlg. sh. and L. 2,591 ft.

Humble O. & R. Co. No. 5 Zappe, sec. 51, H.&T.C. Sur. T.D. 7,075 ft.; 7-in. csg. 7,040 ft.

Sun Oil Co. No. 17 White, James McGahey Sur. T.D. 7,085 ft.; rng. 7-in. csg.

Sun Oil Co. No. 20 White, James McGahey Sur. Drk.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 3 State Land. Drk.

Gulf Oil Corp. No. 70 Davis, B. Young Sur. Drlg. sh. and L. 2,188 ft.

Orchard—Fort Bend County

Gulf Oil Corp. No. 46 Moore, Leo Burknapp Sur. Drlg. L. 3,745 ft.

Gulf Oil Corp. No. 6-A Moore, J. Frazier Sur. Loc.

High Island—Galveston County

Stanolind O. & G. Co. No. 57-A Cade, N. Fitzsimmons Sur. Sdy. L. 4,390 ft.; no report.

Stanolind O. & G. Co. No. 58 Cade, N. Fitzsimmons Sur. R.U.

Stanolind O. & G. Co. No. 1 Cooper, M. Dunman Sur. T.D. 5,715 ft.; abd.

Stanolind O. & G. Co. No. 8 B.&O. fee, M. Dunman Sur. Drlg. sd. and L. 4,973 ft.

Dickinson—Galveston County

Humble O. & R. Co. No. 9-A Stewart, W. K. Wilson Sur. R.U.

Humble O. & R. Co. No. 4-B Stewart, John Sellers Sur. T.D. 8,490 ft.; abd.

Humble O. & R. Co. No. 6-B Stewart, W. K. Wilson Sur. T.D. 8,055 ft.; 7-in. csg. 8,045 ft.; I.P. 10 B.P.H.; ¼-in. ck.; T.P. 1,950 lbs.; C.P. 2,150 lbs.

Kenben Oil Co. No. 2 Stewart, W. K. Wilson Sur. Drlg. sh. 1,500 ft.

Stanolind O. & G. Co. No. 6 State River Bed. M.I.R.

Arriola—Hardin County

Republic-Houston Oil Co. No. 14 fee, E. Arriola Sur. R.U.

Batson—Hardin County

Gulf Oil Corp. No. 175 Wing, F. H. Green Sur. Drlg. 1,530 ft.

Lacawanna Prod. Co. No. 1 Butler, W. Donoho Sur. S.D. 5,465 ft.; (corrected).

Saratoga—Hardin County

Rio Bravo Oil Co. No. 152, Cotton tr. T.D. 1,196 ft.; bailing.

Eureka—Harris County

Houston Oil Co. No. 1 Helberg & Lackner, John Rinerman Sur. 7-in. csg. 4,952 ft.; drlg. sh. 6,778 ft.

Mykawa—Harris County

West Prod. Co. No. 1 Minnetex, Wm Lovett Sur. T.D. 5,943 ft.; P.B. 5,632 ft.; W.O.C.

Pierce Junction—Harris County

Gulf Oil Corp. No. 12 Cain, J. Hamilton Sur. T.D. 3,985 ft.; I.P. 438 B.P.D.; ¼-in. ck.

South Houston—Harris County

R. W. O'Meara No. 1 Sophia Williams, H. T.&B. Sur. T.D. 1,121 ft.; W.O.C.

Dick Schwab No. 2 Williams, H.T.&B. Sur. T.D. 4,801 ft.; 7-in. csg. 4,700 ft.; I.P. 310 B.P.D.; ¼-in. ck.

Smith & McDannald No. 1 Lamb, H.T.&B. Sur. T.D. 3,980 ft.; 7-in. csg. 3,920 ft.; I.P. 418 B.P.D.; ¼-in. ck.; T.P. 400 lbs.; C.P. 450 lbs.

Smith & McDannald No. 1 Vallos, H.T.&B. Sur. Drlg. sh. 1,935 ft.

Stanolind O. & G. Co. No. 2 District 17, Blk. "A." T.D. 4,685 ft.; P.B. 4,605 ft.; 7-in. csg. 4,579 ft.

Stanolind O. & G. Co. No. 1 Carson, H. T.&B. Sur. No. 6. Drk.

Stanolind O. & G. Co. No. 1 Dunn, Blk. 43, H.T.&B. No. 36. Drk.

Stanolind O. & G. Co. No. 1 First Natl. Bank, Callahan and Vince Sur. Drk.

Stanolind O. & G. Co. No. 1 Holder, Unit 5, So. Houston Gardens No. 6. T.D. 4,775 ft.; 7-in. csg. 4,596 ft.; I.P. 447 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 1 Johnson, H. T.&B. Sur. No. 36. 10¾-in. csg. 1,426 ft.; drlg. L. 3,420 ft.

Stanolind O. & G. Co. No. 1 Lamb, H.T. &B. Sur., Tr. No. 21. Digging pits.

Stanolind O. & G. Co. No. 1 C. C. Mathews, H.T.&B. Sur. No. 6. T.D. 4,775 ft.; 7-in. csg. 4,605 ft.

Stanolind O. & G. Co. No. 1 Owen, H.T. &B. Sur., Tr. 29. Drk.

Stanolind O. & G. Co. No. 1 Pittman, H. T.&B. Sur. No. 6. T.D. 4,800 ft.; 7-in. csg. 4,697 ft.; I.P. 226 B.P.D.; ¼-in. ck.; T.P. 120 lbs.; C.P. 500 lbs.

Stanolind O. & G. Co. No. 1 J. C. Vann, H.T.&B. Sur. No. 6, Unit 8. Drlg. sh. and L. 2,685 ft.

Stanolind O. & G. Co. No. 1 Williams, Blk. 45, M. Nichols Sur. Drk.

Sterling O. & R. Co. No. 1 Houston Electric Co., interurban right of way. T.D. 4,718 ft.; top oil sd. 4,718 ft.; I.P. 30 B.P.H.; ¼-in. ck.; T.P. 500 lbs.

Tomball—Harris County

Humble O. & R. Co. No. 1 Hegar, C. Marriott Sur. T.D. 5,561 ft.; 7-in. csg. 5,552 ft.; W.O.C.

Humble O. & R. Co. No. 3 Holderrieth, C. N. Pillot Sur. T.D. 5,558 ft.; 7-in. csg. 5,558 ft.; W.O.C.

Humble O. & R. Co. No. 1 Tomball, Townsite Unit No. 3, J. Housed, Wm. Hurd Sur. Drlg. sh. and L. 4,639 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 2 S. Pinchback C. Williams Sur. T.D. 6,781 ft.; failed to flow; perfd. csg.; tstg.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin and Davis, Wm. McFaddin Sur. T.D. 6,742 ft.; cmtd. S.W. flow; prep. to drill ahead.

Nome—Jefferson County

Sun Oil Co. No. 2 Paggi, J. W. Kirby Sur. Bldg. drk.

Fannett—Jefferson County

Gulf Oil Corp. No. 10 Burrell, W. H. Smith Sur. T.D. 4,519 ft.; 7-in. csg. 4,408 ft.

Hankamer—Liberty County

Uscan Oil Co. No. 5 Exzell, Levi Borrow Sur. T.D. 5,678 ft.; 7-in. csg. 2,689 ft.

Uscan Oil Co. No. 6 Exzell, due south of No. 5, Levi Barrow Sur. R.U.

Hull—Liberty County

Gulf Oil Corp. No. 27 Morris Phillips, J. Devore Sur. T.D. 3,056 ft.; 7-in. csg. 3,003 ft.; W.O.C.

Gulf Oil Corp. No. 113 Phoenix, J. Devore Sur. T.D. 3,946 ft.; rng. csg.

Houston Prod. Co. No. 1-B Baldwin, J. Devore Sur. T.D. 4,818 ft.; 7-in. csg. 4,744 ft.; W.O.C.

Van Vleck—Matagorda County

Skelly Oil Co. No. 1 Langham, M. Cummings Sur. T.D. 8,248 ft. oil sd.; flwd. 177 B.P.D. through ¼-in. ck.; T.P. 750 lbs.

Skelly Oil Co. No. 2 Metzer, M. Cummins Sur. Drlg. sh. 2,690 ft.

Skelly Oil Co. No. 2 Metzer, M. Cummins Sur. Drk.

Livingston—Polk County

Humble O. & R. Co. No. 19 Granbury, A. Vieeca Sur. T.D. 4,247 ft.; 5½-in. csg. 4,231 ft.; I.P. 14 B.P.H.; ¼-in. ck.

Greta—Refugio County

Hewitt & Daugherty No. 27 Lambert, Swisher Sur. 10¾-in. csg. 953 ft.; drlg. sh. 2,210 ft.

Josey & Bruton No. 1 Lambert, Swisher Sur. R.U.

National Pet. Corp. No. 1 S.L.B.&M.R.R. Blew out; T.D. 4,400 ft.; cratering.

United Prod. Co. No. 26 Lambert, Swisher Sur. Drlg. sh. 5,430 ft.

Windsor Oil Co. No. 1 Lambert, Hewitt & Daugherty Subd. Drk.

Refugio—Refugio County

United Prod. Co. No. 14 Fannie Heard, Refugio townsite. T.D. 517 ft.; W.O.C.

United Gas Co. No. 19 Fox. T.D. 5,150 ft.; P.B. 2,129 ft.; sdtkg.

Tomoconnor—Refugio County

Quintana No. 1 Heard, Ximines Sur. T.D. 5,911 ft.; 5-in. csg. 5,910 ft.; I.P. 1,320 B.P.D.; ⅝-in. ck.

Quintana Pet. Co. No. 1 Reilly, Ximines Sur. Drk.

Quintana Pet. Corp. No. 2-C Tomoconnor, Swisher Sur. Top oil sd. 5,707 ft.; T.D. 5,922 ft.; I.P. 1,535 B.P.D.; ¼-in. ck.

Quintana Pet. Co. No. 3-C O'Connor, Main Sur., Blk. 37. Drlg. sh. 1,530 ft.

Placedo—Victoria County

Barnsdall-American Liberty No. 2 W. B. Smith, A. Murphy Sur. T.D. 5,710 ft.; tstd. 200 lbs. pressure on D.S.T. 5,695-5,710 ft.

Crown Central Oil Co. No. 1 Henderson and Pickering, J. M. Brownson Sur. R.U.

Commonwealth No. 3 Prencia, J. M. Bronson Sur. Drk.

Eastern Texas Oil Co. No. 3 Hosek, S.A.& M.G. Sur. No. 7. 10¾-in. csg. 815 ft.

Harrison & Abercrombie No. 2 Voss, J. M. Brownson Sur. Drk.

Haynes B. Ownby No. 3 Malik, S.A.&M. G. Sur. R.U.

Magnolia Pet. Co. No. 1 Klor, S.A.&M.G. 10¾-in. csg. 873 ft.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. T.D. 6,752 ft.; fsg.

Louise—Wharton County

Pure Oil Co. No. 6 Chas. T. Kauntze, Morris-Cummins Sur. T.D. 5,182 ft.; P.B. to 5,166 ft.; comp. for gas well.

Pickett Ridge—Wharton County

Rio Bravo Oil Co. No. 1 T.&N.O. R.R. Co., I.&G.N. Sur. No. 39. T.D. 4,696 ft.; 7-in. csg. 4,691 ft.; I.P. 90 bbls.; 24 hrs.; ¼-in. ck.; T.P. 1,730 lbs.; C.P. 1,820 lbs.

Texas Co. No. 26-A Pierce, I.&G.N. Sur. No. 38. Drlg. sh. 4,617 ft.

Texas Co. No. 27-A Pierce, I.&G.N. Sur. No. 38. Drlg. sh. and L. 3,673 ft.

Texas Co. No. 28-A Pierce, I.&G.N. Sur. No. 39. Drk.

Withers—Wharton County

Texas Co. No. 2-B Pierce, Pierce Est., Blk B. T.D. 5,643 ft.; tstd. oily mud on D.S.T.; P.B. 5,268 ft.; sdtkd. 5,197 ft.

Texas Co. No. 8-C Pierce, Wm. Pettus Sur. T.D. 5,575 ft.; P.B. 5,587 ft.; perf csg. 5,562-69 ft.; swbd. S.W.; abd.

Texas Co. No. 9-C Pierce, John Caldwell Sur. T.D. 5,568 ft.; rng. 7-in. csg.

Texas Co. No. 10-C Pierce, Wm. Pettus Sur. Drk.

GULF COAST WILDCATS

Austin County

W H. Mitchell et al No. 1 F. Fenner, Jr. Fitzgibbons Sur. Drlg. sh. 1,875 ft.

Brazoria County

Gulf Oil Corp. No. 1 Fairfield, A. Robinson Sur. T.D. 8,689 ft.; 5-in. csg. cmtd on bottom; tested S.W. through perf. 8,646-56 ft.; P.B.

Strake Oil Corp. et al No. 1 D. K. Poole J. W. Hardin Sur. T.D. 7,500 ft.; S.D

Texas Co. No. 1 Robbins, J. W. Brougham Sur. 25-in. csg. 169 ft.

Chambers County

Glenn H. McCarthy No. 1 Kilgore, J.

Townsend Sur. Cmtd. surf. csg. 1,500 ft.; W.O.C.

Calhoun County

Benedum & Trees No. 1 Roemer Est., John T. Oggsberry Sur. Drk.

Continental Oil Co. No. 1 Austin Estate, sec. 12, Blk. H. T.D. 6,614 ft.; 9⅝-in. csg. 6,595 ft.; O.S. 8,714-16 ft.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E South, I.&G.N. Sur., sec. 41. Rig and S.D.

Fort Bend County

Texas Co. No. 1 Sugarland, Inc., John Foster Sur. Abd. 5,160 ft.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. Cg. sd. S.O.

Sun Oil Co. No. 1 Houston Farms, D Buckley Sur. 13⅜-in. csg. 1,452 ft.; drlg. sd. 3,159 ft.

Sun Oil Co. No. 2 Hughes, W. C. M. Baker Sur. T.D. 5,084 ft.; P.B.

Hardin County

S Hindman No. 1 Howth, A. J. Cotton Sur. T.D. 6,016 ft.; abd.

Republic-Houston Oil Co. No. 1 Brooks. T.D. 6,840 ft.; tstd. 410 lbs. W.P. on 6-min. D.S.T. 6,730-6,840 ft.

Harris County

Bunte O. & G. Co. No. 1 Lobit et al, Benjamin Barrow Sur. Spudded.

Houston County

Walter Goldston No. 1 Burns, Juan La Reviere Sur. Drlg. chalk 5,265 ft.

Jackson County

Steinberger Pet. Corp. No. 1 Drushel, F Rodrigues Sur. T.D. 5,135 ft.; hole bridged; sdtkd.; drlg. sh. 4,510 ft.

Jefferson County

Shell Pet. Corp. No. 1 Carpenter, M. E. Piveto Sur. T.D. 6,838 ft.; P.B. 6,058 ft.; 7-in. csg. 6,005 ft.; I.P. 574 B.P.D.; ¼-in. ck.; T.P. 975 lbs.; C.P. 1,575 lbs.

Sun Oil Co. No. 1 Herbert & Broussard, B. Blackman Sur., Abst. No. 2. T.D. 8,-848 ft.; gas sd.; drill pipe stuck; fsg.

R. S. Tatum et al No. 1 Owens, Lot 3, Blk. 9, Port Arthur Land Co. Sur. Drlg. sh. 3,500 ft.

Lavaca County

Cole Pet. Co. No. 1 Reed-Nollkamper, A. Smothers Sur. S.D. 3,395 ft.

Matagorda County

Marathon Oil Co. No. 1 Kountze, I.&G.N. Sur. No. 11. Drlg. sdy. sh. 6,240 ft.

Pierce Estate Inc. No. 1 Fee, Wm. Brown Sur. T.D. 6,816 ft.; S.W. sds.

Sun Oil Co. No. 1 Craig, Thomas Williams, Sur. T.D. 6,336 ft.; P.B. 5,850 ft.; perf. csg. 5,340-95 ft.; swbd. dry; perf. csg. from 5,340-95 ft.; P.B. to 5,150 ft., to perf. from 5,150-75 ft.; swbd. 15 bbls. in 24 hrs.

Tetts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. S.D. 1,710 ft.

Texas Gulf Prod. Co. (H. M. Smith) No. 2 Wadsworth, S. R. Fisher Sur. Drlg. sdy. sh. and L. 5,627 ft.

Montgomery County

W. O. Bilonski et al No. 1 J. W. Wood, Wm. Weir Sur. T.D. 3,757 ft.; P.B. 3,-730 ft.; W.O.C.

Pohs-Blumenthal No. 1 Central Coal & Coke Co., J. Stockley Sur. Prep. to spud.

Refugio County

Benedum & Trees No. 1 R. H. Welder, Juan Pabedan Sur. R.U.

Mills Bennett Prod. Co. No. 1 Walzell, E. Lopez Sur., Bonnie View Addn. Abd. 6,-314 ft.

San Jacinto County

J. A. Deering No. 1 Randolph, V. Flores Sur. Abd. 4,187 ft.

Tyler County

McArthur & Mixon No. 1 D. D. Kounts, J. A. Honkins Sur. T.D. 65 ft.

Walker County

L. M. Gay et al No. 1 M. E. Stubblefield, G. Bodilla Sur. Drlg. sh. 2,040 ft.

Wharton County

Cockburn Oil Co. No. 1 Fee, J. Smith & H. McKinzie Sur. Drk.

Continental Oil Co. No. 1 J. F. Weekly, Joseph Clements Sur. Drk.

Pure Oil Co. No. 1 A. P. Borden et al, W. H. Leckie Sur. No. 25. Drlg. sdy. sh. 5,160 ft.

Pure Oil Co. No. 1 Sam Shultz, L. P. Odgen Sur. No. 108. Drlg. sh. 6,682 ft.

Texas Crusader Oil Co. No. 1 fee, J. Smith & McKenzie Sur. R.U.

S. W. TEXAS WILDCATS

Aransas County

Buckingham Oil Co. No. 1 McCampbell, sec. 41-42, James Arids Sur. Sd. 6,554-60 ft.; spraying est. 100 B.P.D. of distillate through ¼-in. and 7/64-in. cks.

Atascosa County

Atascosa Trust No. 1 Domsch, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. 1,222. Cg. L. 3,885 ft.

Helvetia Oil Co. No. 1 S. Pratt, 1,400 ft. NW line, 3,470 ft. SW line, J. de la Garza Sur. Sd. 2,340-2,360 ft.; S.G.; set csg. 2,249 ft.; to D.D.

Bee County

H. A. Pressey No. 1 Hicks, 1,450 ft. S line, 150 ft. W line lease, J. of Uranga gr. Sd. 3,537-55 ft.; perf. 3,482-3,500 ft.; comp.; gasser on ¾-in. ck.; C.P. 50 lbs.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lse., B. Garcia tr., Salinas Sur. T.D. 8,022 ft.; B.P. 3,693 ft.; perf. 3,020-35 ft.; making 25 B.P.H., S.W.; 3% oil.

Burleson County

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line, E. Santel Sur. Set surf. csg.; W.O.C.

Caldwell County

Elam et al No. 1 Francis, 450 ft. SW and SE lines, 291-ac. tr., Young Sur. Sd. 1,740-45 ft.; set csg. 1,737 ft.; making small head oil with drlg. fluid.

L. M. Kniffin No. 1 Young, 1,000 ft. W line, 150 ft. S line, 364-ac. tr., J. R. Miller Sur. R.U.

Wheelock & Collins No. 1 Alexander, 150 ft. NE line, 1,095 ft. NW line, 158-ac. tr., Spiller Sur. Drlg. 312 ft.

Dewitt County

L. W. Capps No. 1 Buchoun, 150 ft. N and E lines, S. V. Slade Sur. Drlg. 3,920 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. S and W lines tr., Fitzgerald gr. S.O. 1,559 ft.; bailed wtr.; D.&A. 1,567 ft.

Duval County

Conservative Oil Co. No. 2 D.C.R.C., 990 ft. SE line, 330 ft. NE line, NW¼, Sur. 51. Drlg. 221 ft.

Gifford Oil Co. No. 1 Roach, Sur. 300. D.&A. 4,354 ft.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250. T.D. 5,150 ft.; D.&A.

Hamil & Smith No. 1 Benavides, Subd. 1, J. B. Sands, Mesquite Sur. D.&A. 3,-571 ft.

Hamil & Smith No. 2 Benavides, Subd. 1, Mesquite Gr. M.I.M.

Rogers & Rogers No. 1 E. R. Hagist, 330 ft. S and W lines, Lot 14, sec. 265. D.S.T. 1,467-83 ft.; 25-min. 20 ft. oil; 30 ft. oil and S.W.; 1,000 ft. S.W.; T.D. 2,580 ft.; D.&A.

Goliad County

C. Morgan No. 1 Metz, 4,290 ft. N line, 330 ft. E line tr., G. Barrera Sur. Gas sd. 5,247 ft.; cg. ahead.

Zenj Oil Co. No. 3 Lutenbacher, 330 ft. N and W lines, SE¼, sec. 25. Top Pettus sd. 5,365 ft.; show of saturation; set 7-in. csg. 5,352 ft.; drld. in to 5,369 ft.; blew in for short time; shut in; cg. deeper 5,397 ft.

Guadalupe County

Long & Ross No. 1 Felix, 75-ac. tr., Duran Sur. R.U.

Riddle Oil Co. No. 1 Notle, Lowell Sur. No. 16. Drlg. 823 ft.

Hidalgo County

Gulf States Oil Co. No. 3 John Engleman, Lot 3, Blk. 70. T.D. 6,813 ft.; sh.; tstg. sd. 6,686-91 ft.; perf. 6,688-92 ft.; cleaning in pits; no S.W.; T.P. 1,200 lbs.; dry gas and some distillate.

Jim Hogg County

Theo. Hicks No. 1 Kohler, sec. 9, Noriaccitas Gr. Drk.

Neuhaus & Meek No. 1-A Martinez, 1,540 ft. N line, 330 ft. E line, sec. 623. Drlg. 1,811 ft.

Jim Wells County

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines, Sur. 151. Sd. 3,990-4,012 ft.; S.O.; cg. 4,047 ft.

La Jita Corp. No. 1 Schallert, 3,919 ft. S line, 2,097 ft. E line tr., Las Presenos Abajo Gr. R.U.

Karnes County

R. L. Barnett No. 1 fee, NE cor. 568-ac. tr. Drlg. 199 ft.

Worth Oil Co. No. 1 Hysaw, 1,070-acre tract, Sequin grant. M.I. rotary.

Kleberg County

B. B. Clark No. 1 Kivlin, 150 ft. N and E lines, Blk. 8, sec. 39, Kingsville Town & Improvement Subd. S.D. 1,319 ft.; (corrected).

LaSalle County

Kennedy & Johnston No. 1 Gilman & Wildenthal, 330 ft. NW and NE lines, 140-a. tr., Sur. 283, Rebldg. drk.

Hartmangruder Drlg. Co. (Paul Meador) No. 1 Reed, sec. 136. T.D. 4,010 ft.; D.&A.

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. Rebldg. drk.

Live Oak County

Carroll Brown No. 1 Rackley, E½, 130-ac. tr., Sparks Sur. A-781. T.D. 1,107 ft.; D.&A.

O. Dovre No. 1 San Antonio Joint Stock Land Bank, 150 ft. N line, 725 ft. E line, Plat 27, Tips Subd., Everett Sur. T.D. 2,002 ft.; recmtg.

J. J. McRoberts No. 1 Mahoney, 2,100 ft. SW Junction Three Rivers, Tilden Highway and Thomas Henry Sur. lines, 150 ft. N. Drlg. 1,047 ft.

Smith & Storey No. 3 Dinero townsite, Jane Curry Sur. Spudded in.

Sun Oil Co. No. 1 James, Pat McGlover Sur. Loc.

Maverick County

Rio Dev. Co. No. 1 Winchester Kelson, 150 ft. W line, 750 ft. S line, E½, 130-ac. tr. spudding.

Thornton & Underwood No. 1 Thompson, 2,000 ft. SW line, 750 ft. SE line, Uvalde Co. Sch. Ld., Sur. 2. M.I.R.

McMullen County

R. J. Hill No. 1 Richardson, 990 ft. E line, 1,650 ft. N line, Sur. 158. Drlg. 2,-767 ft.

C. I. Jennings No. 1 Regan, 1,070 ft. S. Frio River, 330 ft. W line, 642-a. tr., Haley Gr. S.D. 1,026 ft.

E. D. Mathis No. 1 Fahler, 2,000 ft. S line, 75 ft. E line, 500-ac. tr. Loc.

C. C. Shumway No. 9 Shiner, 330 ft. N and W lines, NE¼ sec. 51. Cd. sat. sd. 1,624-40 ft.; cg. ahead.

I. Taylor No. 1 Lark, 150 ft. S and W lines, Lot 72, Scrugham Sur. R.U.

Medina County

N. C. Johnson No. 1 Taylor, 360 ft. E line, 168 ft. S line, 320-ac. tr., Castro Sur. 136. M.I.M.

Thomas & Rife No. 1 Zadick, 2,800 ft. N line, 250 ft. W line, Lubbock Sur. 509. Set surf. csg. 256 ft.; drlg. in.

Milam County

J. C. Kilgore No. 1 Newton, J. Reed Sur. No report.

Nueces County

O. W. Killam No. 1 Crook, 330 ft. S and E lines, NE¼, sec. 15. M.I.M.

G. M. Richardson No. 1 Carter, cen. NW¼, SE¼, sec. 8, Laurells Farms Tra. M.I.M.

San Patricio County

Atlantic Oil Prod. Co. No. 1 Maryland Trust Co., cen. W½, Lot 11, Blk. 42, McCampbell Subd. Twisted off D.S. 5,350 ft.; P.B.; set whipstock 4,904 ft.; drlg. in sdtkd. hole 5,020 ft.

Benedum & Trees Oil Co. No. 4 Welder, 900 ft. N line, 350 ft. E line, sec. 19. M.I.M.

L. A. Douglas and Empire O. & R. Co. No. 1 Konze, 330 ft. N and E lines, sec. 15, Tr. 2. R.U.

O. W. Killiams No. 1 Green, 150 ft. E and NW lines tract, Geo. H. Paul Subd. R.U.

Joe Lundins No. 1 Welder, 330 ft. N and W lines, sec. 30, Paul Subd. Sdtkd. 3,565 ft.; drld. back in old hole 3,775 ft.; P.B. 3,530 ft. and sdtkd.; drlg. 4,060 ft.

Plymouth Oil Co. No. 2-D Welder, 466 ft. N and E lines, sec. 4. Sd. 5,533-41 ft.; S.O.; set csg.; swbg.

K. Sharp et al No. 1 McGloin, 330 ft. S and W lines, sec. 33, Paul Subd. M.I.M.

Trinity Drillers, Inc., No. 1 Mayfield, Lot 11, Roos Subd. R.U.

Starr County

J. F. Anderson No. 1 Ysasierre, Tr Porc. 79, J. of Camargo. Drlg. 2,513 ft.

J. H. Clopton No. 3 Kelsey Bass, 2,460 ft. E line Porc. 87, 660 ft. N. State Highway No. 4. D.&A. 710 ft.

J. H. Clopton No. 4 Roos, 330 ft. S and W lines, Blk. 5, Porc. 91. Loc.

Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485. Spudded in.

Porter Evans No. 1 Ferry, C Lot 3, Porc. 86. Spudded in.

A. A. Kelly No. 1 Guerra & Son, Blk. 25, Porc. 55. Spudded in; S.D.

Ed Leach No. 1 Dana Est., Porc. 84, J. of Camargo. P.B.; perf. 983-75 ft.; R.P. 400 lbs.

Killam & Stagg No. 3 Sanford Ricaby, 2,-000 ft. SE of No. 2, Porc. 83. Gas sd. 963-69 ft.; P.B. from 1,448 ft.; to comp. as gasser.

A. G. McMath No. 1 Guerra, Blk. 21, Porc. 55. Drlg. 300 ft.

Webb County

Mid-Continent Pet. Corp. and Oklahoma Co. of Texas No. 1 Laubscher, 330 ft. NE and NW lines, NW¼, sec. 1,394. R.U.

Lu-Tex Oil Co. No. 1 Lone Star, Porc. 12; (W.O.). Drlg. 2,067 ft.

Willacy County

M. E. Morton et al No. 1 Santa Rosa, 330 ft. N and E lines, Lot 12, Blk. 81, Santa Rosa Subd., Sh. 44. Spudded; S.D.

Shell Pet. Corp. No. 1 Yturria Land & Cattle Co., 990 ft. S and E lines, Share 64, San Juan de Carricitos Gr. Cg. sh. 7,165 ft.

Wilson County

A. G. Reimenschneider No. 2 L. Harrell 750 ft. NE line, 2,300 ft. NW line Barrera Sur. S.D. 740 ft.

Zavalla County

Bay Oil Co. No. 1 Nat. Bank of Commerce, sec. 43, A.B.&M. Sur. T.D. 6,917 ft.; S.D.

S. W. TEXAS PROVEN

Dirks—Bee County

Sunburst Oil Co. No. 3 Boothe, A. Walker Sur. Spudding.

Voss—Bee County

R. B. Swiger No. 1-A Voss, 330 ft. N and E lines, 101-ac. tr., S. May Sur. Drlg. sh. 2,408 ft.

Alta Verde—Brooks County

Nordan, Morris & Nash No. 2 Singer, Sur. 436. D.S.T. 845-49 ft.; 170 ft. oily mud; set csg. 849 ft.; W.O.C.

Lytton Springs—Caldwell County

H. Baugh No. 1 Brewer, 500 ft. NE line, 400 ft. SE line tr. R.U.

Driscoll—Duval County

Continental Oil Co. No. 10-A Sevier, Sur. 448. Drlg. 3,360 ft.

Eagle Hill—Duval County

Al Buchanan No. 7 D.C.R.C., 2,310 ft. E line, 330 ft. N line, S½ N½, Sur. 206. Sd. 2,197-2,213 ft.; comp. 90 B.P.H. on ½-in. ck.

Government Wells—Duval County

Magnolia Pet. Co. No. 2 Harnill, Sur. 64. Sd. 2,320-23 ft.; set csg.; W.O.C.

Morris Stein No. 1 Hahl, 160-ac. tract, Sur. 47. Spudded. S.D.

J. T. Stover No. 1 Hester, 330 ft. S and E lines, SW¼, NE¼, Sur. 47. Sd. 2,251-60 ft.; set csg.; stdg.

Hoffman—Duval County

Duval Oil Corp. No. 1 Green, 330 ft. SW and SE lines tr., Sur. 118. Drlg. 1,532 ft.

Rogers & Rogers No. 2 Cuellar, 330 ft. NW and SE lines, sec. 117. Drlg. 2,612 ft.

Rogers & Rogers No. 4 Hoffman, 330 ft. SW and NW lines tr., Sur. 118. Sd. 2,-870-2,926 ft.; comp.; 12½ B.P.H.

Rogers & Rogers No. 6 Hoffman, Sur. 118. Set surf. csg.; W.O.C.

Rogers & Rogers No. 4 Sutherland, E½, Sur. 120. Sd. 2,895-2,900 ft.; rebldg. drk.

Rogers & Rogers No. 6 Sutherland, Sur. 120. Drlg. 1,632 ft.

Loma Novia—Duval County

Bridwell Oil Co. No. 8-A Hubbard, Sur. 71. Drlg. 2,637 ft.

Bridwell Oil Co. No. 6-C Hubbard, Sur. 75. M.I.M.

Hamil & Smith No. 13 Hubbard, Sur. 77. Comp.; 24 B.P.H.; T.D. 2,650 ft.

Highland Oil Co. No. 6 W C. Hubbard, Sur. 75. Loc.

Highland Oil Co. No. 21 Hubbard, Sur. 72. Comp.; 96 B.P.D. on ½-in. ck.; T.D. 2,-738 ft.

Highland Oil Co. No. 31 Hubbard, Sur 72. Sd. 2,742-51 ft.; comp.; 112 B.P.D. on ½-in. ck.; T.D. 2,762 ft.

Humble O. & R. Co. No. 15 Ruiz, Sur. 552. Set csg. 2,745 ft.; W.O.C.

Humble O. & R. Co. No. 9-B Hubbard, Sur. 83. T.D. 2,749 ft.; swbg.

Humble O. & R. Co. No. 9-C Welder, Sur. 554. Set csg. on sd. 2,737 ft.; W.O.C.

Kaffie Lbr. Co. No. 1 Knoll, Sur. 114. T.D. 2,559 ft.; D.&A.

Joe Palmer No. 1 Hahl, Sur. 61. Drlg. 1,823 ft.

Shell Pet. Corp. No. 5 Bishop, 330 ft. E line, midway N and S lines tr., Sur. 59. Comp.; 10 B.P.D.; T.D. 2,578 ft.

Shell Pet. Corp. No. 6 Bishop, Sur. 59. Loc.

Shell Pet. Corp. No. 10 Hubbard, Sur. 77. Drk.; M.I.M.

Shell Pet. Corp. No. 10 Mendoza, Sur. 68. Set csg. 2,815 ft.; comp.; no gauge.

Shell Pet. Corp. No. 12 Mendoza, Sur. 68. Set csg. 2,779 ft.; W.O.C.

Shell Pet. Corp. No. 13 Mendoza, Sur. 68. Drk.

Texas Co. No. 44 Wendt, Sur. 68. Sd. 2,-610-21 ft.; comp.; 800 B.P.D. on ½-in. ck.; T.D. 2,629 ft.

Loma Vista—Duval County

Atlantic Oil Prod. Co. No. 1 J. F. Welder hrs., 330 ft. N and E lines, 160-ac. tr., Sur. 103. Loc.

Pan American Pet. Co. No. 1-H Welder, 330 ft. N and W lines, 160-ac. tr., Sur 103. T.D. 3,006 ft.; P.B. 2,863 ft.; set csg. 2,822 ft.

Shell Pet. Corp. No. 1-B Welder, 330 ft. S line, 2,590 ft. W line, Sur. 69. Cg. sh. 3,160 ft.

Palangana—Duval County

Frank Gravis No. 3-A Scharlett, Sur. 255. Drlg. 2,026 ft.

Peters—Duval County

Tom Graham No. 1 Sutherland, Sur. 138. Drlg. 1,847 ft.

Mills Bennett Prod. Co. No. 5 Peters, 990 ft. S line, 330 ft. W line, sec. 178. Sd. 2,608-16 ft.; comp.; 12 B.P.H. on ⅝-in. ck.

Shasta Oil Co. and Highland Oil Co. No. 1 Peters, 330 ft. N line, 990 ft. W line, Sur. 117. Drlg. 1,020 ft.

Rio Bravo Oil Co. and Geo. Coates No. 2 Peters Sur. 398. T.D. 2,884 ft.; D.&A.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 7 D.C.R.C., Sur. 95. Drlg. 1,040 ft.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 5-E Welder, Sur. 102. Sd. 2,429-46 ft.; comp.; 20 B. P.H. on ½-in. ck.

Atlantic Oil Prod. Co. No. 6-E Welder, Sur. 102. Set surf. csg.; W.O.C.

Cox & Hamon No. 1 Telford, NW¼, Sur. 386. Set csg. 2,719 ft.; W.O.C.

Darby Pet. Corp. No. 4-A Welder, Sur. 102. Drlg. 1,767 ft.

Darby Pet. Corp. No. 5-A Welder, Sur. 102. Drk.; R.U.

Humble O. & R. Co. No. 15-B Serna, Sur. 384. Sd. 3,659-65 ft.; T.D. 2,686 ft.; D. &A.

Humble O. & R. Co. No. 18 Smith, Sur. 384. Sd. 3,659-65 ft.; T.D. 3,686 ft.; D

Humble O. & R. Co. No. 19 Smith, Sur. 382. Set surf. csg. on sd. 2,465 ft.; rng. screen.

Humble O. & R. Co. No. 21 Smith, Sur. 382. Drlg. sh. 1,814 ft.

Humble O. & R. Co. No. 6 Wright, Sur. 118. Drk.

Illinois Pet. Co. No. 5 Hazelwood, Sur. 110. Set csg. 2,502 ft.; W.O.C.

Chas. Kleiner No. 1 Chernosky, Sur. 226. Sd. 2,693-2,708 ft.; S.D.; T.D. 2,708 ft.

Ed Leach No. 2 R. Serna, Sur. 384. M.I.M.

Magnolia Pet. Co. No. 1 Neely, 330 ft. N line, 990 ft. W line, Sur. 220. T.D. 2,757 ft.; P.B. 2,588 ft.

Mid-Continent Pet. Corp. No. 9 Serna, Sur.

384. Sd. 2,191-2,206 ft.; set csg. 2,189 ft.; W.O. pump.
Navarro Oil Co. No. 2-A Welder, Sur. 383. Sd. 2,469-82 ft.; set csg.; W.O.C.
Parr Oil Co. No. 1 Sling, Sur. 118. Sd. 2,477-85 ft.; show sat; set csg. 2,469 ft.; W.O.C.
Parr Oil Co. No. 2 Sling, Sur. 118. Drlg. 1,513 ft.
Reliance Oil & Royalty Co. No. 7 Drummond Sur. 308. Comp.; 49⅛ B.P.D.; T.D. sd. 2,521 ft.
Reliance Oil & Roy. Co. No. 8 Drummond, Sur. 308. Drlg. 215 ft.
C. S. Sollers No. 1 Welder, Sur. 102. Set surf. csg.; W.O.C.
Texas Co. No. 2 Badgley, Sur. 307. R.U.
Westheimer & Daube No. 14 Campos, Sur. 224. Sd. 2,665-2,708 ft.; drlg. plugs.
Westheimer & Daube No. 15 Campos, Sur. 224. R.U.

Pearsall—Frio County

Amerada Pet. Corp. No. 2 Michael, 511 ft. N line, 466 ft. W line, A. Lynch Sur. 321. Drlg. sh. and shells 5,500 ft.
Amerada Pet. Corp. No. 1 Miller, 466 ft. NE and SE lines tr., B. Saltillo Sur. Set csg. 5,431 ft.; stdg.
Amerada Pet. Corp. No. 3 Smith, 466 ft. E line, 905 ft. N line, J. B. Mason Sur. 322. Set csg. 5,212 ft.; W.O.C.
Combs & Oakes No. 1 Arp, 330 ft. S and E lines, 102-ac. tr., S. Blair Sur. 297. Top chalk 5,507 ft. Saturation cored 5,-535-55 ft.; acidized and shot; cleaning hole; T.D. 5,921 ft.

North Pettus—Goliad County

Bostex Oil Co. No. 1 Lackey, 1,650 ft. NW line, J. Gomez Sur., 1,660 ft. SW of No. 3-A. Loc.
Diamond Half Oil Co. No. 2-B Lackey & Welden, J. Gomez Sur. Loc.
Jane Oil Co. No. 3-B Gillette, 810 ft. SE No. 2-B, cen. N and S lines, J. Gomez Sur. Sd. 3,665-71 ft.; comp.; 50 B.P.D. on ¼-in. ck.; T.D. 3,675 ft.
Jane Oil Co. No. 7 Mudd, 453 ft. NE line, 430 ft. SE line lse., B.&B. Sur. R.U.
Magnolia Pet. Co. No. 2 Gillette, J. Gomez Sur. T.D. 3,678 ft.; comp.; 95 B.P.D. on pmp.
Magnolia Pet. Co. No. 2 Porter, A. B. Meyers Sur. Drk.
Pettus O. & R. Co. No. 1 Hickle, 330 ft. N and W lines tr., J. Gomez Sur. T.D. 3,695 ft.; D.&A.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1, Farm Tr. 2,309, Blk. 59. T.D. 7,597 ft.; recmtd. lmr. 7,595 ft.; no show; stdg.
Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines Tr. 2,120, Blk. 87. T.D. 7,560 ft.; set csg. 7,450 ft.; sh.; jetting with gas.
Union Sulphur Co. No. 10 American Rio Grande L. & I. Co., Blk. 50, Tr. 2,418, N. Caprisallo Dist. Drlg. sh. 1,169 ft.

Mestanas—Hidalgo County

McCullom Explin. Co. No. 1 Harding, Lot 11, Blk. 94, Missouri-Kans. L. & I. Co., Subd. Mestanos Gr. Loc.

Samfordyce—Hidalgo County

J. T. Barlow No. 1 Marta Flores de Chapa, Tr. 250, Porc. 39 (W.O.). Cored sd. 2,938-50 ft.; set 4-in. csg.; P.B. 2,500 ft.; sdtkd. 2,475 ft.; drlg. 2,486 ft.
Danvers & Harrison No. 1 Uvalde Vallalon, 230 ft. N line, 148 ft. E line, 6.32-ac. Tr., Tr. 252, Porc. 38. Sd. 2,939-53 ft.; comp.; est 60 B.P.D. on 3/32-in. ck.
Dean Bros. No. 2 Luis George, 450 ft. S line, 150 ft. W line, 10-ac. tr., Tract 13, Porc. 41. T.D. 1,550 ft.; S.D.

Bentonville—Jim Wells County

La Jita Corp. No. 1 Erck, 330 ft. N & E lines, N½ sec. 75. Drlg. 4,165 ft.
La Jita Corp. No. 1 Frame Bowers, 330 ft. N and E lines, sec. 14. Loc.
La Jita Corp. No. 1 Hayden, 990 ft. N line, 330 ft. W line, NE¼, sec. 19. Drlg.
Lucey Pet. Co. No. 1 Coopwood, 330 ft. N and W lines, 221-ac. tr., sec. B. Sd. 1,-740-77 ft.; gas; drlg. 1,916 ft.
Stanolind O. & G. Co. No. 2 Blundell, 330 ft. N line, 330 ft. E line, NE¼, SW¼, sec. 16. Set surf. csg. 1,010 ft.; W.O.C.
Stanolind O. & G. Co. No. 1 Frame & Bowers, 330 ft. S & E lines, sec. 14. D.S.T. 5,397-5,422 ft.; show S.W.; recmt.
Stanolind O. & G. Co. No. 1 Hayden, 330 ft. N line, 339 ft. W line, sec. 19. Loc.
Stanolind O. & G. Co. No. 1 Thompson, 330 ft. N and W lines, NE¼ sec. 4. T.D. 5,685 ft.; P.B. 3,983 ft.; set csg. comp.; gasser; on 3/16-in. ck.

Lucas—Live Oak County

Houston Oil Co. No. 35 Cartwright, 500 ft. NE R.R., 2,440 ft. NW of No. 33. Cg. sh. 5,325 ft.

Callihan—McMullen County

Comet Oil Co. No. 1 Lark, 150 ft. S and W lines, Blk. H, Scrugham Sur. No report.
Loma Oil Co. No. 3-F Jacob, 660 ft. W of No. 1, Jacob Sur. D.&A. 712 ft.
Loma Oil Co. No. 4-F Jacob, 165 ft. SE line, Faddin Sur., 610 ft. SW of No. 1-F. M.I.M.

Rhode—McMullen County

Humble O. & R. Co. No. 2 Rhode, 330 ft. S and W lines, Sur. 17. T.D. 3,039 ft.; set csg.; W.O.C.

Agua Dulce—Nueces County

Parker, Foran & Knode No. 1 J. G. Ingram, sec. 9, Ross Peters Subd. No. 2. T.D. 4,768 ft.; set csg. 4,753 ft.; drlg. plugs.
Texon Royalty Co. No. 1 Elliff, 466 ft. E line, 3,194 ft. S line tr., Longorio grant. Drlg. hd. sh. 5,987 ft.

Clara Driscoll—Nueces County

O. W. Killam No. 2 Ellich, 1,120 ft. N line, 330 ft. E line, 86-ac. tr., sec. 109. Oil sd. 3,881-3,908 ft.; set csg.; cleaning in pits; making sd.
H. M. Reed No. 1 Roper, Lot 12, Blk. "E," sec. 108. Loc.
Santa Clara Oil Co. No. 3 Clara Driscoll, Sevier Sur., 697 ft. E line, 1,980 ft. S line, 500-ac. tr., sec. 109, Paul Subd. M.I.R.

Flour Bluff—Nueces County

Gem Oil Co. No. 1 J. T. Smith, Lots 20 and 21, sec. 47. Loc.

Saxet Heights—Nueces County

Callaham Oil Co. No. 1 Best, 5-ac. tr., Ehlers Garden Tra. Sd. 4,086½-91 ft.; set csg. 4,091 ft.; drlg. plugs.
Capitol Oil Co. No. 1 Corpus Christi Ind. School Dist., Fairview School Survey. Set csg. 4,088 ft.; perf. 4,085-87 ft.; comp.; 100 B.P.D. on ½-in. ck.
W. W. Chapman No. 1 Reed, C Blk. 4, Country Club. Pl. Drlg. 2,612 ft.
J. K. Culton No. 2 Tribbie, 330 ft. N line, 250 ft. W line, 17.54-ac. tr. Comp.; 284 B.P.D. on 5/32-in. ck.
Federal Oil Co. No. 1 C. R. Priour, cen. Blk. 15, Oak Park Addn. M.I.M.
General Drlg. Co. No. 1 Poth, C Blk. 6, Port View Addn. Set surf. csg.; W.O.C.
Gibraiter Bldg. & Savings Assn. No. 1 fee, 90 ft. N line, 200 ft. E line, Lots 21 and 22, Country Club Pl. Cg. 4,012 ft.
Hamil & Smith No. 1 Johnson, 330 ft. S and E lines tr. R.U.
Morgan Bros., Inc., No. 1 Bender, cen. .75-ac. tr., Blk. D, Harbor View Addn. Set csg. 4,063 ft.; W.O.C.
Morgan Bros., Inc., No. 1 Dodson, cen. ½-ac. tr., Blk. 12, Bancroft Farm Lots. Drlg. 4,012 ft.
W. N. Paul No. 1 Shallert, Blk. "D," Harbor View Addn. Spd.; set sur. csg. 502 ft.; W.O.C.
Pedernal Oil Co. No. 1 Priour, C Blk. 15, Oak Park Addn. Set csg. reperf. 4,074-79 ft.; tstg.
Port O. & G. Co. No. 3 Country Club Pl., C Lot 31, C.C. Pl. Addn. Cg. 4,054 ft.
Port Oil & Gas Co. No. 2 Sherman, Lots 26 and 27, Country Club Place Addn. Perf. 4,084-88 ft.; completing.
J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Place. Drk.
Renwar Oil Corp. and Maryland Corp. No. 1 Golla, 19.3-ac. tr. Sd. 4,045-68 ft.; set csg. 4,068 ft.; W.O.C.
Renwar Oil Corp. No. 1 Guaranty Title & Trust Co., Lot 9, Blk. 12, Villa Gardens. Perf. 4,084-86 ft.; S.D.
Richardson Pet. Co. No. 1 Burke, 200 ft. S line, midway E and W lines, 10-ac. tr. Sd. 4,075-89 ft.; tstd. S.W. and little oil; T.D. 4,130 ft.; D.&A.
Richardson Pet. Co. No. 2 Priour, C Blk. 11, Oak Park Addn. Drlg. 2,713 ft.
Rupert Cox No. 1 Lawrence, 330 ft. N and E lines, 32-ac. tr. R.U.
Saxet Prod. Co. No. 1 Uehlinger, 10-ac. tr., Blk. 12, Bancroft Farm Lots. Spudded in.
Taylor Ref. Co. No. 3 Corpus Christi Golf and Country Club 72-ac. tr. Drk.
Westgate Oil Co. No. 2 Sturm Est., 89-ac. tr. Set surf. csg. 500 ft.; W.O.C.
Westgate Oil Co. No. 4 Sturm Est., 83-ac. tr. Sd. 4,069-80 ft.; set csg.; W.O.C.

Saxet—Nueces County

C. Andrae No. 1 McGregor-Belk, 330 ft. N line, 367 ft. W line lse., Sur. 311. Set surf. csg. 156 ft.; W.O.C.
H. D. Carpenter No. 1 Harmon, 330 ft. S and E lines, 50-ac. tr., G. Frank Sur. 416. Set surf. csg. 100 ft.; M.O. heavy rig.
Conroe Drlg. Co. No. 3 Bliss, 330 ft. N and W lines, 105-ac. tr., Stevens Sur. Drlg. 1,729 ft.
Conroe Drlg. Co. No. 5 Bliss, 330 ft. N line, 1,085 ft. W line, 105-ac. tr., Stevens Sur. Drlg. 3,872 ft.
Conroe Drlg. Co. No. 1-A Rand Morgan, 990 ft. E line, 330 ft. N line, Sur. 403. Sd. 5,817-25 ft.; tstd. oil and S.W.; set csg.; fsg.
Conroe Drilling Co. No. 1-C Rand Morgan, 990 ft. E line, 330 ft. N line, lease, Sur. 403. T.D. 1,000 ft.; stdg.
Conroe Drlg. Co. No. 1-D Rand Morgan, 330 ft. S and E lines, W½ NW¼, sec. 405. Pits.
Gilcrease Oil Co. No. 2 Sullivan, 330 ft. N line, 990 ft. E line, 140.13-ac. tr., Gallagher Sur. Set surf. csg. 1,110 ft.; W.O.C.
Grace Oil Co. No. 1 Eden, 10-ac. tr., Ehlers Garden Tracts, Spudded in.
Tom Graham No. 1 Harmon, 330 ft. N and E lines, 34-ac. tr., Sur. 416. Drlg. 2,512 ft.
W. B. Hinton No. 2 Cole, 990 ft. E line, 330 ft. S line, 60-ac. tr. Drlg. 360 ft.
Houston Oil Co. No. 1-A fee, 330 ft. S and E lines of tr. Loc.
Houston Oil Co. No. 3 Harrell, Blk. 19, Sheppard Farm Lots. Drlg. sdy. sh. 2,-925 ft.
Houston Oil Co. No. 4 Harrell, Blk. 19, Sheppard Farm Lots. Sd. 4,848-54 ft.; completing.
Houston Oil Co. No. 1 McGregor, 800 ft. N line, 1,450 ft. W line, Sur. 311. (Workover). Sd. 5,813-35 ft.; deepened to 5,-846 ft.; completing.
Houston Oil Co. No. 12 Morgan, 330 ft. S and W lines lse., sec. 7, Rge. 5, Drk.
Frank Jones No. 1 Carson, 330 ft. N line, 800 ft. E line, Sur. 500 (old Viola No. 1) workover. T.D. 4,902 ft.; cd. sd. 5,827-30 ft.; T.D. 5,843 ft.; wtr. sd.; S.D. orders.
Mills Bennett Prod. Co. No. 1 Ordner, 330 ft. S and E lines, 210-ac. tr., Sur. 410. T.D. 5,521 ft.; P.B.; sd. 4,092-4,100 ft.; perf. 4,078-82 ft.; completing.
North Star Oil Co. No. 2 Rand Morgan, 330 ft. E line, 1,650 ft. S line, W½, SE¼ sec. 405. Drlg. 560 ft.
North Star Oil Co. No. 4 Rand Morgan, 330 ft. N and E lines lease, Sur. 405. Sd. 5,789-5,833 ft.; set csg. 5,833 ft.; drlg. plugs.
North Star Oil Co. No. 7 Rand Morgan, 990 ft. S line, 330 ft. W line, SE¼, sec. 405. M.I.M.
North Star Oil Co. No. 8 Rand Morgan 330 ft. S and W lines lease, Sur. 405. Set surf. csg.; W.O.C.
North Star Oil Co. & Morgan Gulf Oil Co. No. 1-G Rand Morgan, 330 ft. N line, 250 ft. E line, Sur. 403. Drlg. 5,559 ft.
North Star Oil Co. No. 2-G Rand Morgan, 910 ft. E line, 330 ft. N line, B.S. &F. Sur. 403. Sd. 5,803-21; comp.; no gauge.
Pan American Pet. Co. No. 1-C Morgan, 330 ft. S and E lines, 160-ac. tr., B.S. &F. Sur. 405. Sd. 5,805-29 ft.; set csg.; drlg. plugs.
Pan American Prod. Co. No. 1-F Rand Morgan, 330 ft. S and E lines, NW¼, sec. 405. M.I.M.
Phillips Pet. Co. No. 2 Rand Morgan, 330 ft. N and E lines, E½, SE¼, Sur. 405. Spudding in.
Renwar Oil Corp. No. 2 Rand Morgan, 990 ft. W line, 330 ft. N line, 80-ac. lse., Sur. 315. M.I.M.
Richardson Pet. Co. No. 2 Harrell, 330 ft. N and W lines, Blk. 33, Sheppard Farm Lots. R.U.
W. A. Richardson No. 1 W. S. Hutchins (workover), 330 ft. S and E lines, 80-ac. tr., Sh. 2, Frank Sur. 416 Sd. 5,881-98 ft. Tested s. w. W.O. orders.
Richardson Petroleum Co. No. 4 Perkins & LaGasse, 330 ft. W lines, 296 ft. N line, Blk. 26, Sheppard Farm Lots. Sur 406. Perfd. csg. 5,164-68 ft.; comp.; no gauge; flwg. dist. with C.P. 2,350 lbs.
Richardson Pet. Co. No. 2 Priour, Oak Park Addn. Drlg. 3,217 ft.
Richardson Petroleum Co. No. 3 Quiros, 660 ft. E of No. 2. Perfd. 5,836-46 ft.; completing.
Richardson Pet. Co. No. 9 Quiros, Blk. 39, Sheppard Farm Lots. Skidding on.
Sinclair Prairie Oil Co. No. 3 Isensee, 330 ft. S and E lines, 80-ac. tr., C. Land Sur. 404. Sd. 4,960 ft.; tstd. gas; drlg. 6,463 ft.
Southern Minerals Corp. No. 7 Bliss, 330 ft. S and W lines tr., Stevens Sur. Comp.; no gauge; sd. 5,794-5,818 ft.; T.D. 5,823 ft.
Southern Minerals Corp. No. 8 Bliss, 120-ac. tr., J. W. Stevens Sur. 406. Rig.
Southern Minerals Corp. No. 8 Bliss, 120-ac. tr., Stevens Sur. Set surf. csg.; W.O.C.
Southern Minerals Corp. No. 13 Bliss, 120-ac. tr., Stevens Sur. Spudded in.
Southern Minerals Corp. No. 5 Isensee, 330 ft. N and W lines tr., Sur. 404. Sd. 5,-506-12 ft.; comp.; no gauge.
Southern Minerals Corp. No. 5 Isensee, 330 ft. N line, 990 ft. W line, 235-ac. tr., C. Land Sur. 404. Skidding on.
Southern Minerals Corp. No. 3 Mastin, 990 ft. S line, 330 ft. E line, 125-ac. tr., G. Frank Sur. 416. Set surf. csg.; W.O.C.
Southern Minerals Corp. No. 3 Mastin, 990 ft. S line, 330 ft. E line, 125-ac. tr., G. Frank Sur. 416. Skdg. on.
Southern Minerals Corp. No. 7 Smith, 330 ft. S and E lines, 120-ac. tr., Blk. 4, Sheppard Farm Lots. Set csg. 4,417 ft.; sd. 4,417-30 ft.; comp.; no gauge.
Texon Drilling Co. No. 2 Isensee, 150 ft. N line, 112 ft. W line, 13.44-ac. tr., C. Land Sur. 404. Spudded.
Violet Oil Co. No. 1 McGregor, 330 ft. N line, 367 ft. W line tr., Sur. 311. R.U.
W. A. R. Oil Co. No. 1 Hutchins, 80-ac. tr., Sh. 2, Frank Sur. 416 (old Capps No. 1, workover). Sd. 5,881-98 ft., s.w. S.D. W.O. orders.
Warner Quinlan Co. No. 4 Isensee, Blk. 1, Sheppard Farm Lots. Sd. 4,396-4,412 ft.; S.G.; cg. deeper.
Wynne Drlg. Co. No. 1 Rand Morgan, 1,650 ft. N line, 330 ft. W line, 235.5-ac tr., Sur. 315. Sd. 4,446-49 ft.; set csg.; W.O.C.

Plymouth—San Patricio County

Centennial Oil Co. No. 1 State of Texas, Tr. 2, 1,350 ft. E line, 7,410 ft. S line, sec. 71. T.D. 5,611 ft.; washing in.
Centennial Oil Co. No. 1 State of Texas, Tr. 3. Drk.
Centennial Oil Co. No. 2 State of Texas, Tract 3, 640 ft. S and 46 deg., 51 min. E of Plymouth O. Co. No. 23-C Welder. Showed gas; deepened to 5,615 ft.; recompleting.
Magnolia Pet. Co. No. 8 Corpus Christi Bank, sec. 24, M.I.M.
Plymouth Oil Co. No. 53-C Welder, 460 ft. S line, 2,236 ft. E line, sec. 71. Set csg. on sd. 5,644 ft.; W.O.C.
Plymouth Oil Co. No. 54-C Welder, 462 ft. S line, 1,095 ft. E line, sec. 71. Drlg. 5,426 ft.
Plymouth Oil Co. No. 55-C Welder, 465 ft. S line, 435 ft. W line, sec. 71. Drlg. 3,357 ft.
Plymouth Oil Co. No. 56-C Welder, 466 ft. S and W lines, sec. 49. Drlg. 3,262 ft.
Sun Oil Co. No. 1 Rosen, 466 ft. N line 315 ft. W line tr., E½ W½ sec. 35, J Fessenden Sur. T.D. 5,690 ft.; comp.; no gauge.
Sun Oil Co. No. 1 Rountree, 466 ft. N and E lines lse., Blk. 34, Taft Farm Lots. Drlg. 4,036 ft.

Taft Field—San Patricio County

Cage Prod. Co. No. 1 Mayo, Ottman Sur. M.I.M.
Conroe Drlg. Co. No. 1 Pullin, 150 ft. N and E lines, 40-ac. tr., Lot 4, sec. 2. Drlg. 660 ft.
Humble O. & R. Co. No. 4 Mayo, Tabor Sur. Set csg. on sd. 3,978 ft.; comp.; est. 150 B.P.D. on 9/64-in. ck.

Rio Grande City—Starr County

Coreta Oil Co. No. 4 Doyno, Blk. 1, Tr. 4, Sh. 77-A, Porc. 81. Sd. 1,435-48 ft.; comp. on pump; no gauge.
Sioux Oil Corp. No. 3 Frank Doyno, 150 ft. N and W lines, Blk. 2, Tr. 77-A, Porc. 81. M.I.M.
Fech Oil Co. No. 1-B Frank Doyno, 150 ft. S and E lines, Blk. 2, Tr. 77-A, Porc. 81. Sd. 1,419-25 ft.; drlg. plugs.

Samfordyce—Starr County

Henshaw Bros. No. 3 Guerra, Tr. 254, Por. 39. Drlg. 1,532 ft.
Henshaw Bros. No. 1 Yturria Land & Livestock Co., E½ Porc. 100. Perf. 2,-577-79 ft.; comp.; 147 B.P.D. on 3/16-in. ck.
Porter & Pickens No. 3-B Garcia Land & Cattle Co., 150 ft. S and E lines, N½ tr., W½ Porc. 100. Drlg. 1,965 ft.
Skelly Oil Co. No. 10 Seabury, Tr. 256, Porc. 38. Perf. 2,795-2,802 ft.; C.O.

Lopez—Webb-Duval Counties

Gem Oil Co. No. 1 Peal, Sur. 72. Sd. 2,103-13 ft.; comp. gasser; spraying 50 B.P. D. oil.
C. H. Lewis No. 7 Lopez, 330 ft. W line, 990 ft. N line, sec. 110. Cg. 2,235 ft.
Magnolia Pet. Co. No. 3 Peal, 660 ft. S No. 1, Sur. 72. Sd. 2,134-34 ft.; comp.; 15 B.P.H.
Magnolia Pet. Co. No. 4 Peal, Sur. 72. M.I.M.
Mills Bennett Prod. Co. No. 2 Josepha Valadez, 990 ft. W line, 330 ft. S line, lse., sec. 73. Comp.; 20 B.P.H. est.; sd. 2,142-51 ft.
Mills Bennett Prod. Co. No. 3 Josepha Valadez, Sur. 73. Skidding on.
Mills Bennett Prod. Co. No. 10 E. Valades Sur. 114. Sd. 2,198-2,205 ft.; comp.; 432 B.P.D. on ½-in. ck.
Mills Bennett Prod. Co. No. 11 E. Valadez, Sur. 114. Sd. 2,212-20 ft.; comp.; 434 B.P.D. on ½-in. ck.
Mortimer & Springer No. 3-A Garcia, 801 ft. N line, 980 ft. W line, Sur. 112. Set csg. on sd. 2,219-45 ft.; comp.; 15 B.P.H.
Mortimer & Springer No. 3 Jesus Lopez, Sur. 73. Sd. 2,153-71 ft.; set csg.; W.O.C.
Mortimer & Springer No. 4 Jesus Lopez, 330 ft. S line, 990 ft. W line, E½, Sh. 10-B, Sur. 73. M.I.M.
Mortimer & Springer No. 6 Jesus Lopez, Sur. 73. T.D. 2,171 ft.; comp.; 30 B.P.H. on ½-in. ck.
Mortimer & Springer No. 7 Maria Lopez, Sur. 112. Set surf. csg.; W.O.C.
Mortimer & Springer No. 1 Peal, Sur. 72. Location.
Starr Dev. Co. No. 1 Peal, Sur. 796. Off sd. 2,140-45 ft.; comn.; 35 B.P.H. on ½-in. ck.; T.D. 2,155 ft.
Star Dev. Co. No. 2 Peal, 660 ft. E of No. 1, Sur. 796. M.I.M.
Superior Oil Co. No. 12 W. C. Billings, 1,-650 ft. N line, 330 ft. E line, sec. 109. Set csg. on sd. 2,243-46 ft.; comp.; 15 B.P.H.; jetting.
Superior Oil Co. No. 13 W. C. Billings, 2,-310 ft. N line, 990 ft. E line, Sur. 109. Sd. 2,251-57 ft.; set csg.; W.O.C.

O'Hern—Webb County

Magnolia Pet. Co. No. 11 S. Benavides, Hale Subd. Sd. 2,824-27 ft.; set csg.; W.O.C.
Starr Dev. Co. No. 1 Benavides, 320 ft. N and W lines, Sur. 173. M.I.M.

Escobas—Zapata County

Texas Co. No. 92 Whitehead, 3,630 ft. S, 35 deg. 20 min. E, N cor. lse., Cerrito Blanco Gr. R.U.

Haynes—Zapata County

Geo. Buck No. 2 Haynes, Blk. 4, Haynes Subd., Villa & Comitas gr. M.I.M.
Geo. Buck No. 5 Haynes, Blk. 4, Haynes Subd. Tstg. sd. 915 ft.
Clover O. & G. Co. No. 17 Haynes, 200-ac. tr., Blk. 7. Set csg. 1,030 ft.; W.O.C.
Gilcrease Oil Co. No. 1 Haynes, Blk. 8, Haynes Subd. Cg. 821 ft.
McKay & Upchurch No. 6 Haynes, Blk. 7. T.D. 912 ft.; comp.; no gauge.
Nordan & Morris No. 1 Haynes, Blk. 7, Haynes Subd. R.U.

E. C. TEXAS WILDCATS

Anderson County

Gulf Oil Corp. No. 1 Ross, Robt. Irwin Sur., elev. 487 ft. Drlg. 6,900 ft.

Angelina County

W. A. Stone et al 1 Southern Pine Lbr. Co., B. J. Thompson Sur., 8 mi. SE Lufkin; R.U.

Falls County

E. L. Chapman et al No. 1 Grocholski, top Austin 2,860 ft.; drlg. 3,070 ft.

Fannin County

Styles & Smith No. 1 R. Stewman, 150 ft. from S and 300 ft. from W line of J. W. Clark Sur., 2 mi. SE Trenton. Spud. and S.D.

Franklin County

Atex Oil Co. No. 1 R. L. Jaggers, 375 ft. N and 1,400 ft. E of J. Humphrey Sur., 1½ mi. NW of Winfield, elev. 398 ft. R.U.
E. Bateman et al No. 1-E Phillips, Wm. Birdwell Sur., 4 mi. SW Talco. T.D. 4,361 ft.; P.B. 4,343 ft.; top sd. 4,287 ft.; to standardize.

Flannery et al No. 1 Hedrick. S.D. 4,369 ft.

Virginia Hudson et al No. 1 B. M. Patterson, 150 ft. from N and E of S 31 ac., E. Rice Sur., 3½ mi. SW of Hagersport. Drk.

R. B. & H. Oil Co. No. 1 Phillips, 150 ft. N and E of 72.1 acres, Wm. Birdwell Sur. Drk.

Stroube & Stroube No. 1 B. Norman. M. E.P.&P. Sur. Drk.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 6 miles NW of Denison. Elev. 767 ft.; set whipstock 901 ft.; T.D. 5,980 ft.; P.B. to 4,400 ft.; S.D.

Henderson County

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. R.U.

Atex Oil Co. et al No. 1 R. W. Fair, 330 ft. from N and E of 100-ac. tract in J. M. Arnest Sur., 5 mi. SW of Chandler. Loc.

Hopkins County

D. Hager et al No. 1 J. Worshorn, A. Whitmore Sur. Pecan Gap 1,187-1,208 ft.; top Woodbine 3,040 ft.; top Georgetown 3,600 ft.; top sand 4,467 ft.; making oil similar to Talco crude; S.D.

Hunt County

Penn Oil Corp. et al No. 1 A. B. Manning, 750 ft. S and 850 ft. W of 45-ac., 5 mi. NE of Lone Oak, S. Owens Sur. Drk.

Kaufman County

Lester & Duffield No. 1 D. C. Baron, J. T. Taylor Sur., 3 mi. NE of Elmo. Drlg. 4,662 ft.

Lamar County

Abercrombie & Harrison No. 1 C. M. Terrell, 4½ mi. SE of Paris. Drk.

Red River County

Abercrombie-Harrison No. 1 Temple Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarksville. Top sd. 2,104 ft.; top Paluxy 1,057-59 ft.; drlg. by junk at 2,294 ft.

Williams et al No. 1 L. and O. Roberts, James Bankston Sur., 2 miles NE of Annona. Elev. 396 ft.; S.D. 735 ft.

Rusk County

Pure Oil Co. No. 1 W. H. Faulkner, Wm. Elliott Sur., S of Concord. Elev. 563 ft.; drlg. 7,636 ft.

Smith County

Carolyn et al No. 1 Bennett-EW, 330 ft. N and 150 ft. E of 80-ac., Robt. Walters Sur., 3 mi. NE of Winona. R.U.

Titus County

B. G. Byers et al No. 1 L. Blackburn, J. W. McCullough Sur. Drlg. 2,021 ft.

Nivia Oil Co. No. 1 J. N. Kelley, J. Holman Sur. T.D. 4,360 ft.; S.D.

EAST TEXAS

(Border Counties)

Bowie County

Fay T. Chew et al No. 1 Barkman, John Parkman Sur. Sur. pipe set; W.O.C.S.

Ferguson & Hill No. 1 A. Y. Breckenridge, N. Dycas Sur. 10-in. set 60 ft.; W.O.C.S.

Westmount Oil Co. No. 1 R. N. Phillips, G. N. Hancock Sur. T.D. 4,044 ft.; D.& A.; (drop).

Woodley & Bentley and J. D. Lumpkin No. 1 John McDermott. T.D. 3,260 ft.; washing to bottom; O.W.D.D.

Cass County

American Liberty Oil Co. No. 4 Maxie, John Collom Sur. Comp.; flw. 40 B.P. H.; ¼-in. tbg. ck.; T.D. 6,006 ft.; 5-in. 5,972 ft.

American Liberty Oil Co. No. 1 G. Stephens, 330 ft. N and 1,020 ft. E, SW cor. J. Garsner Sur. Drlg. 4,615 ft.

W. P. Lacy et al No. 1 Baugus, J. H. Rives Sur. 7-in. cmt. 6,004 ft.; W.O.C.S.

Lide, Greer & Brown No. 1 Baugus, 150 ft. N and E. from NE cor. Lot 12 in J. H. Rives Sur. Drlg. 3,332 ft.

Magnolia Pet. Co. No. 6 A. S. Hall, NW cor. 60-ac. lse., John Collom Sur. Loc.

Magnolia Pet. Co. No. 7, NW cor. 60-ac. lse., John Collom Sur. Loc.

Magnolia Pet. Co. No. 2 W. M. Hall, SE cor. Wilson Robinson Sur. Loc.

Marathon Oil Co. No. 1 R. P. Willis, S.F. I. W. Sur. 7-in. cmt. 5,935 ft.; W.O.C.S.

R. W. Norton No. 1 W. M. Hall, 330 ft. S and 697 ft. W. NE cor. 100 acs., W. Robinson Sur. No. 907. Comp.; flw. 50 B.P.H.; ¼-in. tbg. ck.; T.D. 6,114 ft.

R. W. Norton No. 2 A. S. Hall, NE cor. A. S. Hall tr., James Young Sur. Drlg. 3,176 ft.

R. W. Norton No. 3 A. S. Hall, NW cor. E. E. Hill 60-ac., John Collom Sur. 9-in. cmt. 2,075 ft.; W.O.C.S.

R. W. Norton No. 3 Haywood, on Priscilla Evans Sur. 6-in. cmt. 6,041 ft.

R. W. Norton No. 2 Mary Rives, John Collom Sur. Cg. 6,003 ft.

Magnolia Pet. Co. No. 4 A. S. Hall, J. Collom Sur., 544 ft. S of N line, 1,250 ft. E of W line, E. E. Hall tr. Loc.

Magnolia Pet. Co. No. 5 A. S. Hall, J. Collom Sur., 532 ft. S of N line and 440 ft. W of E line of E. E. Hall 60-ac. tr. Drk.

Magnolia Pet. Co. No. 1 J. J. Moore, J. Collom Sur., 330 ft. N, 413 ft. W, SE cor. of 118-ac. tr. Loc.

Showers & Moncrief No. 5 T.H. and Sallie Stalcup, Robt. Trammell Sur. Drlg. 100 ft.

Showers & Moncrief No. 7 T. H. and Sallie Stalcup, 1,714 ft. S, 167 ft. W, NE cor. 62-ac. tr., Robt. Trammel Sur. 10-in. cmt. 2,026 ft.; W.O.C.S.

Showers & Moncrief Co. No. 1 Stalcup, J. Davenport Sur. Comp.; flw. 18 B.P.H.; 14-in. tbg. ck.; T.D. 6,006 ft.

Showers & Moncrief No. 2 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. N line, 854 ft. E line. Drlg. 760 ft.

Showers & Moncrief No. 3 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. N and W lines. Moving in.

Showers & Moncrief No. 4 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. S and W line. Loc.

Showers & Moncrief No. 6 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. S and 1,323 ft. W line. Loc.

Showers & Moncrief No. 8 T. D. and Sallie Stalcup, Robt. Trammel Sur., midway between E and W line of lse. Loc.

Superior Oil Co. No. 1 Susie Chatten, SE cor. H. Holbert Sur., in Wm. R. Myers Sur. Drlg. 3,357 ft.

Superior Oil Co. No. 1-A Chew, SW cor. Robt. Trammel Sur. Drlg. 2,974 ft.

Superior Oil Co. of Calif. No. 2 Stalcup, Robt. Trammel Sur. Drlg. 5,253 ft.

United Prod. Corp. No. 2 E. J. Cunningham, on Wilson Robinson Sur. Swbd. S.W. only at 6,099 ft.; P.B.

United Prod. Co. No. 3 J. R. Jones, Ben J. Murray Sur. Loc.

United Prod. Corp. No. 2 E. Tyson Unit, J. H. Rives Sur. Comp.; flw. 16 B.P.H.; ¼-in. tbg. ck.; T.D. 6,050 ft.

United Prod. Corp. No. 3 F. S. Simpson, 557 ft. N, 440 ft. W, SE cor. 160-ac. tr., James Young Sur. Drk.

United Prod. Corp. No. 2 J. T. Stewart, J. Collom Sur., 529 ft. N, 440 ft. E, SW cor. J. T. Stewart tr. R.U.

United Prod. Corp. No. 3 J. T. Stewart, J. Collom Sur., 544 ft. N and 1,250 ft. E, SW cor. J. T. Stewart tr. R.U.

United Prod. Corp. No. 4 J. T. Stewart, J. Collom Sur., 532 ft. N, 2,060 ft. E, SW cor. 61-ac. tr. R.U.

United Prod. Corp. No. 5 J. T. Stewart, J. Collom Sur., 536 ft. N, 615 ft. E, SW cor. Mack and J. H. Stewart tr. R.U.

United Prod. Co. No. 6 J. T. Stewart, John Collom Sur., 330 ft. S of N line and E of W line of Mack & Stewart 31.9 ac. Loc.

Harrison County

W. F. Bridewell et al No. 1 Clapp, F. C. Baker Sur. T.D. 2,412 ft.; acid 2,000 gals.; swbd. S.W. only; S.D.O.; may D.D.

Geyer Oil Co. No. 4 Vincent, Chas. Davenport Sur. Drlg. 750 ft.

Hanover, Bergendoll et al No. 1 Buchanan, Wm. McIlvain Sur. T.D. 4,070 ft.; fsg.

Panola County

A. C. Glassell No. 1 Frost Lbr. Industries, SW cor. Mary S. Potts Sur. Drk.

Gulf Oil Corp. No. 1 Pierce & Chesbro, J. H. Shahan Sur. Drk.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. Drlg. 2,640 ft.

Sabine County

L. D. House et al No. 1 Bell, McDonnell Sur. Cg. sd. 2,050 ft.

Shelby County

Farley & Sommer No. 1 Greer, J. English Sur. Skidded old rig 50 ft. west; drlg. 3,100 ft. in sh.

H. A. Stebbinger et al No. 1 Pickering Lbr. Co., C. B. Henry Sur. Drlg. 4,794 ft.

F. E. Mulroy et al No. 1 C. A. Hayden, in the D.T.F. York Sur. Set surf. pipe; W.O.C.S.

NORTH TEXAS WILDCATS

Archer County

Bonner Co. No. 1 W. E. Norton, J. W. Snell A-386. Drlg. 750 ft.

L. T. Burns No. 1 M. E. Durham, J. W. Harris Sur., sec. 52. Loc.

Bob Elmore No. 1 O. L. Kunkel, T.E.&L. Sur., sec. 2,419. Drlg. 850 ft.

Fraser & Proctor No. 1 Langford, Blk. 135, Harris Subd. R.U.R.

G. E. Grininger No. 1 J. J. Perkins, J. Poitevent Sur. A-247. S.S.O. 1,515-18 ft.; tstg.

Kemp & Waggoner No. 1 Wilson, Blk. 75. A.T.N.C.L. Cem. 6⅝-in csg. 2,190 ft.; sd. 2,205-20 ft.; C.O. and testing.

Clay County

Midfield Oil Co. No. 1 McClellan, F. Stanley A-407. Drlg. 2,000 ft.

Carl Purcel No. 3 Stine "D," sec. 7, P.C. S.L. Sur. Drlg. 1,760 ft.

Cooke County

Anderson & Kerr No. 1 L. K. Bell, T. E. Hardeway Sur. A-464. 6⅝-in. 1,932 ft.; W.O.C.

Cain & Chandler No. 1 J. B. Burch, J. M. Williams Sur. A-658. Drlg. 1,940 ft.

Hill Christian No. 1 J. T. Donald, J. Guffey Sur. A-1,545. 6⅝-in. 2,655 ft.; sd. 2,655-72 ft.; sd. 2,890-2,900 ft.; bailing oil and wtr.; C.O.

Homarado Oil Co. No. 1 H. D. Field, J. B. McClyman A-735. 6⅝-in. 1,216 ft.; W.O.C.; C.O.

W. M. Johnson No. 1 G. M. Smith, J. Boyle A-88. S.D. 275 ft.

Lanier et al No. 1 Norman, J. Bush Sur. A-107. Drk.

A. N. Landes No. 1 Mrs. O. Wilson, E. Reed Sur. Drlg. 490 ft.

Mills & Carey No. 1 Bezner, J. B. Trenary A-1,043. S.D.O.

Mullins & Weil No. 1 Rose T. Hardeway A-464. Drlg. 1,810 ft.

Nair Oil Corp. No. 1 England, J. C. McElroy A-711. S.D. to standardize.

Newsom Bros. No. 1 J. W. Mount, J. L. Walters Sur. A-1,155. Drlg. 1,240 ft.

E. R. Robison No. 1 J. Kreba, H. Wilkey Sur. A-1,090. T.D. 1,350 ft.; C.O.

Ungerman et al No. 1 W. Reid, F. Earthman Sur. A-349. Drlg. 1,550 ft.

Wertheimer et al No. 1 W. A. Erwin, J. Armendaris Sur. A-1,234. Drlg. 550 ft.

Whitehead et al No. 1 Lynch, A. Edmiston Sur. A-353. Loc.

Denton County

C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238. S.D. 1,860 ft.

Manning & Moore No. 1 E. L. Darnell, I. Walters Sur. A-1,329. S.D. 2,350 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur. Drlg. 4,010 ft.

Texas Co. No. 8 L. K. Johnson, sec. 36, S.P.R.R., Blk. L. Loc.

Jack County

J. W. Campbell No. 1 W. J. Cannon, E. P. Costen Sur. A-1,825. Drlg. 855 ft.

T. J. Deskins No. 1 Jones, H. Stutter, A-1,269. Loc.

S. B. Edwards No. 1 Bryson, J. Hughson Sur. A-256. Drlg. 2,875 ft.

W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. Drlg. 1,177 ft.

W. H. Hammon No. 1 Kuykendall, B.S.&F. A-1,720. Drlg. 7,870 ft.

Harper Pet. Corp. No. 1 G. F. Brown, S. M. Holderness A-1,532. R.U.C.T.

C. Kadane No. 1 E. F. Smith, S.P.R.R. Sur. A-522. Drlg. 2,065 ft.

States Oil Corp. No. 1 J. Lowe, J. Hughson A-256. Drlg. 3,330 ft.

Sterntexx Oil Co. No. 1 Boyd, J. N. Wright Sur. A-898. S.S.O. 3,370-82 ft.; S.D.O.

Montague County

Bowden et al No. 1 Buck Est., D. F. Mallard A-925. S.D. 200 ft.

T. P. Frost No. 1 Johnson, sec. 6, E.T. R.R. Spudded.

Jim Seeds et al No. 1 Coombs, sec. 58, M.E.P.&P. Sur. S.D.O. 2,340 ft.

Sinclair Prairie Oil Co. No. 1 Holt Est., Blk. 45, K.C.S.L. Drlg. 2,420 ft.

R. Franklin Smith No. 1 Cora Hurd, E. Ballinger Sur. Drlg. 2,200 ft.

Wichita County

Clark et al No. 1 C. T. Marshall, J. Cole A-838. S.D. 1,912 ft.

W. F. Hamilton No. 1 W. T. Waggoner, S. Holloway Sur. A-533. Drlg. 1,140 ft.

Pete Harmon et al No. 1 J. B. Jamison, J. Deck Sur. A-52. Drlg. 2,070 ft.

G. H. Howell No. 1 Foster, sec. 1, H.T.& B. Spudding.

Melat & Graham No. 1 Munger, Blk. 25, K.W.V.F.V. Sur. R.U.R.

J. M. Morton No. 1 Housler, J. C. Pike, A-509. Drlg. 2,518 ft.

Pois & Schultz No. 1 Ed Foster, H.T.&B. Sur. A-129. Drlg. 1,795 ft.

Wilbarger County

Fain-McGaha No. 1 Waggoner-NN, sec. 37, H.&T.C., Blk. 4. Spudding.

Franklin Oil Co. No. 1 D. G. Feller, et al, sec. 108, Blk. 14, H.&T.C. Sur. S.D. 1,570 ft.

King Oil Co. No. 1 Waggoner-P, J. Poitevent Sur. Drlg. 1,885 ft.

Smith No. 1 S. A. Dill et al, sec. 32, Blk 14, H.&T.C. Sur. S.D. 2,200 ft.

Webb & Rogers No. 1 Mrs. D. Coffee, sec. 44, H.&T.C., Blk. 15. Spudded.

Young County

Associated Developers No. 1 E. G. Williamson, T.E.&L. Loc.

S. Caprito No. 1 Mrs. N. Laquey, A. Irvin Sur. A-1,779. Drlg. 140 ft.

Art Cox No. 1 J. T. Rogers, J. Ray D-1,628. Drlg. 840 ft.

W. D. Eastland No. 1 A. R. Manning, T.E. &L. Sur. 3,412. Fsg. 1,625 ft.

Pitzer West et al No. 1 W. R. Dollins, T.E. &L. Sur. 615. Drlg. 3,867 ft.

Rathke Oil Co. No. 1 O. W. Hill, J. C. Graham Sur. A-122. Drlg. 2,008 ft.

Rathke Oil Co. No. 2 J. T. Rogers, S. H. Graham Sur. A-124. T.D. 3,912 ft.; rng. 5 3/16-in.; flwg. 15 B.P.D.

Womack Oil Co. et al No. 1 W. A. Dennis, C. F. Bass Sur. Drlg. 3,800 ft.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. Drlg. 1,050 ft.

WEST TEXAS WILDCATS

Andrews County

Grisham Hunter Corp. No. 1 Ratliff & Bedford. T.D. 777 ft.; U.R. csg.

Borden County

Moore Bros. No. 1 Clayton-Johnson, sec. 20, Blk. 32, Twp. 4n, T.&P. Sur. Material.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. U.R. csg.; T.D. 2,316 ft.; fsg.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 E. B. Duggan, cen. Labour 13, League 55, Oldham County Sch. Ld. S.D. 2,297 ft.; standardizing.

Concho County

J. W. Westbrook No. 1 Ledbetter. Drlg. 3,062 ft.

Crane County

Big Basin Oil Corp. No. 1 Cowden. Drlg. 4,846 ft.

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. Drlg. 4,473 ft.

Gulf Oil Corp. No. 2 Tubbs, sec. 12, Blk. 27-B. T.D. 4,010 ft.; bailing wtr.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 1,731 ft.

Loffland Bros. No. 2 Tubbs, sec. 9, B-27. Fsg. 2,705 ft.

Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. Drlg. 5,248 ft.

Rider et al No. 1 Thaxton, sec. 2, W. L. Wilkenson Sur. Spudded and S.D.

Crockett County

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur. S.D. 1,255 ft.

Ector County

Empire G. & F. Co. No. 1-C Cummins, sec. 22, Blk. 45, Twp. 1n, T.&P. Sur. Cellar.

Grisham-Hunter Corp. No. 1 R. B. Cowden, C of SE¼, sec. 10, Blk. 45, Twp. 2n, T.&P. Sur. Drlg. 3,500 ft.

Sinclair Prairie No. 1-A Johnson, sec. 42, Blk. 42, Twp. 1s, T.&P. Sur. Spudding.

York & Harper No. 1 Slator, 660 ft. N and W, sec. 26, Blk. 45, Twp. 1s, T.&P. Sur. Loc.

Edwards County

M. I. Phillips & Miers No. 1 Turney, 330 ft. from N and W, sec. 164, C.C.S.D.& R.G.N.G. Sur. Drlg. 110 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless Fsg. 553 ft.

Ellis & Eubanks No. 1 C. C. Wourland, sec. 15, Blk. 21, T.&P. Sur. T.D. 2,612 ft.; to set csg.

Forest Dev. Co. No. 1 A. M. Dry, sec. 108, Blk. 2, H.&T.C. Sur. Drlg. 3,937 ft.

Gaines County

Humble O. & R. Co. No. 1 W. Eubanks, sec. 6, Blk. AX. Drlg. 4,600 ft.

Landreth Prod. Co. No. 1 Kirk, sec. 21 A-21. T.D. 4,870 ft.; P.B. 4,855 ft.; bailing some sulfur wtr.

Garza County

Brown Eagle Oil Co. No. 1 Sullivan, sec. 3, S. C. Harper Sur., Blk. H. Top pay 2,772 ft.; T.D. 2,790 ft.; to acidize.

M. L. Richards No. 1 U. U. Post est., sec. 1,232, D. L. Phillips Sur. T.P. 2,590 ft.; drlg. 2,770 ft.

Glasscock County

California-Honolulu Oil Corp. No. 1 Calverley, 1,650 ft. S and W, sec. 25, Blk. 35, Twp. 3s, T.&P. Sur. Material.

F. Dodson et al No. 1 Carter heirs, sec. 8, Blk. 33, Twp. 3s, T.&P. Sur. T.D. 580 ft.; ran csg.

Hockley County

Texas Co. No. 1 B. Slaughter, 725 ft. from S and 665 ft. from W. Labour 83, League 38, Zavala Co. Sch. Lds. Bldg. drk.

Hudspeth County

Hayman Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P. Sur. T.D. 1,131 ft.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur. S.D. 5,000 ft.

Jones County

Dobbs Oil Co. No. 1 McCreight, sec. 14, O.A.L. Sur. S.D. 1,665 ft.

Owens-Snebold Oil Corp. No. 1 S. Gorman, sec. 5, Blk. 6, W. C. Walker Sur. Drlg. 1,739 ft.

Owens-Snebold Oil Corp. No. 1 Jones, McKissic Sur. No. 204. Drlg. 1,445 ft.

Oyster & Barnes No. 1 King, Scott Sur. No. 16, 1 mi. S of Luedera. Loc.

Parker No. 1 C. I. Brown, sec. 9, Blk. 2, T.&N.O. Sur. T.D. 2,234 ft.; U.R. csg.

Kimble County

Wilcox O. & G. Co. No. 1 H. Spiller, sec. 15, Brooks & Burleson Sur., Abst. 80, S.D. 445 ft.

Loving County

Evans No. 1 Johnson. Wtr. shut-off; T.D. 3,214 ft.; swabbing mostly wtr.; little oil.

Pecos County

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. S.D. 1,701 ft.

Tex-Mex Oil Co. No. 1 McKee, Tr. 7, sec. 24, Blk. 9, H.&G.N. Sur. Standardizing.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 2,000 ft.

Presidio County

Lindeman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R. Co. Sur., 2¼ mil. NE of Presidio. T.D. 1,660 ft.; to drill ahead.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL. T.C.R.R. Sur. S.W. 4,865 ft.; S.D. 4,886 ft.

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; S.G. 4,350 ft.; gas sd. 4,956-58 ft.; T.D. 6,527 ft.; P.B. to 5,779 ft.; S.D.

Taylor County

Illinois Pet. Co. No. 1 Mrs. G. A. Bigham, W½ sec. 29, Guadalupe Co. School Lands Sur. Drlg. 1,600 ft.

A. R. Forrester No. 1 O. A. Prescher, sec. 14, Blk. 86, J. R. Shipman Sur. T.D. 1,640 ft.; to set 8-in. csg.

Terry County

J. A. Estes No. 1 F. B. Graham, sec. 23, Blk. T, O.&W.R.R. Sur. S.D.

Uscan Oil Co. No. 1 Brownfield, C N¼ sec. 54, Blk. K, P.S.L. Sur. Loc.

Tom Green County

Spinner No. 1 Reed, Sub. 39, Mason & Perry Sur. S.D. 2,505 ft.

E. E. Webb No. 1 D. B. Horn, sec. 137, Washington Co. R.R. Sur. Spudded.

Upton County

G. P. McCamey No. 1 Cordova Union, sec. 19, Blk. 1, M.K.&T. Sur. T.D. 2,096 ft.; swbg. 30 B.P.D.

Perry & Breeding No. 1 Cordiva-Union, sec. 1, M. Huggins Sur. T.D. 2,295 ft.; P.B. 2,282 ft.; pumps off in 1½ hrs.

Ward County

P. Moran et al No. 1 Reynolds, sec. 12, Blk. 5, H.&T.C. Sur. S.D. 850 ft.

Winkler County

Bert Fields et al No. 1 Walton, 2,970 ft. from S and 330 ft. from W, sec. 3, Blk. C-23. Drk.

Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. S.D. 5,005 ft.

Navarro Oil Co. No. 1 Drane, tr., sec. 35, Blk. 26, P.S.L. Sur. T.D. 3,165 ft.; to reshoot.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. Spudded.

Texas Co. No. 1 Holley, sec. 7, Blk. B-11, P.S.L. Sur. Loc.

Yoakum County

Bahan et al No. 1 Henard, C SW ¼, sec. 367, Blk. D, J. H. Gibson Sur. El. 3,691 ft.; Yates 3,090 ft.; drlg. 4,983 ft.

Stogner et al No. 1 Roosevelt, sec. 215, Blk. D, John H. Gibson Sur. El. 3,712 ft.; drlg. 3,600 ft.

Rocky Mountain Runs

Estimated daily average production for the week ending July 25 was as follows:

WYOMING

Salt Creek	16,440
Big Muddy	1,500
Badger Basin	40
Black Mountain	360
Byron	180
Dallas Derby	570
Dutton Creek	60
Elk Basin	330
Ferris	60
Frannie	790
Garland	100
Grass Creek	1,330
Hamilton dome	1,440
Hidden dome	90
Hudson	340
LaBarge	1,130
Lance Creek	3,990
Lost Soldier	1,150
Midway	40
Oregon Basin	2,360
Osage	790
Pilot Butte	30
Rock River	1,970
South Casper	20
Poison Spider	170
Quealy dome	110
Teapot	20
Warm Springs	50
Total Wyoming	35,460

MONTANA

Buckley-Border	220
Cat Creek	750
Cut Bank	9,000
Dry Creek	1,020
Kevin-Sunburst	4,500
Lake Basin	40
Pondera	900
Total Montana	16,430

COLORADO

Florence	140
Ft. Collins and Wellington	340
Iles dome	3,200
Moffatt	440
Orchard	70
Rangely	80
Tow Creek	170
Total Colorado	4,440

NEW MEXICO

Artesia	640
Cooper	8,630
Eunice	20,700
Hobbs	22,260
Hogback	200
Jal	3,150
Lea	1,020
Maljamar	2,520
Monument	10,050
Rattlesnake	810
Table Mesa	90
Total New Mexico	70,070
Total Rocky Mountain Region	126,400

Michigan Fields

(Continued from Page 198)

County, for an open flow capacity of 36,000,000 feet at 1,296 feet, one of the larger wells of the week. Stewart-Atha, Inc., No. 2 Elmer Cogswell, C SE SW section 31, same township, was completing for gas.

The one Hinton Township, Mecosta County, completion of the week was a 9,000,000-foot gasser brought in by the Columbia Oil & Gas Co. as the second test on the F. L. Stebbins lease, C NW SE section 25-13n-8w. Stray was topped at 1,290 feet and pay for about 10 feet from 1,300 to 1,310 feet.

Oil Wells

Largest new oil well was the T. T. Hawksworth, or Hyatt & Norton No. 1 McNeal, SW NW NW section 3-14n-3w, in Chippewa Township, Isabella County, which was rated good for 150 bbls. a day in the Dundee to 3,616 feet.

McClanahan Oil Co. No. 3 Heintz, NW NE NW section 24-22n-3e, Ogemaw Township and County, was rated a 40-bbl. initial producer in the Dundee after acid treatment. Weber Oil Co. No. 2 Crawford, SW NE SE section 28-22n-2e, West Branch Township, same county, swabbed 20 bbls. daily from the Dundee at a total depth of 2,695 feet.

Joseph Trever No. 1 Forbes, SW SW SW section 22, which was tested and produced for some time from the Traverse, was completing in the Dundee to which it was deepened in hopes of greater output. Pure No. 4-B Novak, NE NW NE section 18, Greendale, also was nearing Dundee completion.

Crystal-Montcalm

Though several wells were in the pay sands with commercial production indicated, none were completed in the Crystal-Montcalm field.

Fortney Oil Co. No. 5 H. J. Fisher, SE NE NE section 2-10n-5w, Crystal Township, drilled into the Dundee unexpectedly before casing at about 2,200 feet and started to flow. Same company's No. 3 Rockelman, SW SW SE section 11, topped the Dundee at about the same depth and was filling up rapidly.

Cryden Petroleum Corp. No. 4 Husted, reported complete the week before, multiplied its output by five from 100 to 500 bbls. after acid treatment making it the largest recent new oil producer in the Crystal field.

Daily Crude Oil Co. No. 4 Flint, NW SW SE section 35-11n-5w, in the Ferris Township section of the same field, plugged back to 3,204 feet to treat a good show in the Dundee with acid. It was drilled to 3,207 feet. Hirzel-Leland Development Corp. No. 1 Henemeyer, C SE SW section 26, Ferris Township, also was completing. Swanson Oil Co. No. 1 Flint, SW NW NW section 11, was cased at 3,172 feet and ready to drill into Dundee under the waters of Duck Lake.

Ogemaw County

Gordon Oil Co. No. 1 Holt, SE SW SE section 13, Ogemaw Township and County, struck oil 25 feet in the Dundee at 2,674 feet and was completing.

Sun Oil Co. No. 1 State, NE SE NE section 6-21n-2e, Horton Township, same county, was testing the Dundee after being deepened to 2,625 feet from an original Traverse producer.

R. F. Voorhees, Inc. No. 2 Taylor, SW SE NE section 17-21n-3e, Mills Township, also was completing.

Tuscola County

After many weeks of testing and treating, Dr. Virgil R. D. Kirkham No. 1 Boyce Farm Co., SW SW NW section 24-14n-7e, Wisner Township, Tuscola County, which already has produced several hundred barrels of oil from the Dundee, was placed on the pump as a 25-bbl. completion. Dundee was topped at 2,604 feet and water at 2,893 feet. The hole was plugged back to 2,855 feet and treated. It was a semiwildcat near the Smith Petroleum Co. No. 1 Boyce farm well, produced for some time as the discovery well in the area but recently plugged as too small for commercial operation.

Co-Op and Miller Oil Co. No. 1 Forsyth, SE SW SE section 36-10n-7e, Arbela Township, Tuscola County wildcat, struck several shows in the Berea but was continuing to the Dundee.

Gulf Coast Fields

(Continued from Page 197)

Bayou Mallet field, Acadia Parish, Superior Oil Producing Co. has abandoned No. 1 Goss at 8,404 feet and is moving in material for No. 4 Bradley, located 2,170 feet south and 1,050 feet west of the southwest corner of section 37-7s-1e.

One of the most interesting wildcats in the district is Humble Oil & Refining Co. No. 2 Bell estate, southern Allen Parish, which is drilling in shale below 7,650 feet. A protection string of 9⅝-inch casing was cemented at 7,470 feet as a precaution against another blowout such as occurred at the company's No. 1 Bell, located to the southwest, when it encountered a soft sand while drilling at 7,770 feet. Should No. 2 Bell make a producer it will result in an extensive wildcatting play throughout this area.

In the Graben area of the Gillis field, Calcasieu Parish, Union Sulphur Co. No. 1 Cole, in section 12-9s-8w, tested dry gas at a depth of 5,280 feet and after the hole was deepened to 5,825 feet, it was swabbed after sanding up and showed salt water.

At the New Iberia field, Iberia Parish, the Texas Co. No. 1 Bryant topped sand showing oil at 4,416 feet and is waiting on cement to set at 4,414 feet. Bill Crysanthon and others have derrick up for No. 1 Gulf Land, section 71-12s-7e.

Dry Hole Tests

Two wildcats in Jefferson Davis Parish were abandoned. On the Hayes prospect, Shell Petroleum Corp. No. 1 Lacassine in section 20-11s-10w, tested salt water through perforated casing at 8,664 feet and was plugged back to 8,422 feet, where it was abandoned. On the Woodlawn prospect, Strake Petroleum Corp. No. 1 Onezia Miller has reached the contract depth of 8,505 feet and is scheduled to be abandoned after an electrical coring test. It is in section 7-9s-4w. Stanolind Oil and Gas. Co. No. 1 Britt on the South Jennings prospect is fishing at 7,880 feet.

At the Leesville field, LaFourche Parish, Lincoln Oil Co. No. 9 State, section 24-21s-22e, topped sand showing oil at 5,019 feet and 7-inch casing is being run. Bottom of the hole is 5,038 feet.

Bowles & Borsodi No. 1 Haas Investment Co., located 2,500 feet southwest of the Texas Co. No 1 Weill, a producer in the Cheneyville field, Rapides Parish, is coring in shale below 5,872 feet and has apparently missed the 5,700-foot Cockfield sand. It is in section 53-1s-2e.

A short extension has been made for the Jeanerette field in St. Mary Parish by Herton Oil Co. No. 1 Barrileau, which topped sand showing oil at 7,220 feet and is preparing to make a drill stem test after running an electric coring test. Bottom of the hole is 7,253 feet. It is southwest of production in section 59-13s-8e.

Continental Oil Co. was drilling plug on No. 1 Hebert, on the Abbeville prospect, Vermillion Parish. The well established a record depth for the Gulf Coast last week when it reached 10,956 feet, and it is drilling the plug with 3-inch drill stem preparatory to drilling to 13,000 feet.

At the St. Martinsville field, St. Martin Parish, Continental Oil Co. is moving in a rig for No. 1 Fee, located 827 feet west of the No. 1-A which recently opened a deeper producing horizon for the field. Coastal Oil Co. No. 1 Domengeaux, temporarily abandoned at 5,841 feet after missing the 5,500-foot sand, has been taken over by Tide Water Oil Co. and it will be deepened to the sand found by Continental's well.

Expo Committee Meets

Plans for the International Petroleum Exposition in Tulsa in May, 1938, which will be larger in size and scope, got under way last week at a meeting of the executive committee of the exposition and General Manager W. B. Way.

President W. G. Skelly said the management is making a survey to help the directors decide whether the tenth exposition should extend more than eight days, possibly two weeks.

During the ninth exposition, last May, executives of several large oil companies told the general manager and president they would like a two weeks' show as this would give them more time to send men in from the field. Some exhibitors expressed themselves as in favor of continuing with the eight-day show, since they feel this provides sufficient time to contact prospects and customers. A longer period, they feel, is too great a strain on the men who attend the exhibit.

It is likely the exposition committees will begin work in the fall in order to have approximately a year and a half to build exhibits and work out parts of the exposition program.

Canadian Gasoline

OTTAWA, Ontario, July 25.—Official figures show that imports into Canada of natural casinghead, compression or absorption gasoline lighter than .6690 specific gravity in April amounted to 1,840,252 gallons, valued at $127,665, all from the United States. March imports included 2,181,499 gallons valued at $139,943 from the United States and 2,368,159 gallons valued at $159,600 from Peru.

Imports of gasoline lighter than .8235 specific gravity, all from the United States, amounted in April to 1,056,021 gallons valued at $69,992 and in March to 917,936 gallons valued at $80,708.

Exports of gasoline and naphtha in April were 628,593 gallons valued at $95,303 against 7,123 gallons valued at $1,317 in March.

The most recent reports on gasoline sales for April show increases in all seven provinces reporting. For the four months of 1936 four of the seven provinces show gains over the 1935 period and three show decreased sales, though in Ontario, the major gasoline-consuming province, the decrease is merely nominal, sales being 63,319,000 gallons in 1936 against 63,386,000 gallons in 1935.

PERSONAL

SAMUEL F. PRATT has been made European manager for Pennsylvania Grade Crude Oil Association and sailed from New York on July 29 for London to take over his new duties. His family accompanied him. SAMUEL HARTWELL, who has been European manager, returns to America to become chief of the field staff at headquarters in Oil City, Pa.

MALCOLM E. WILSON, vice president and director of Lion Oil Refining Company of El Dorado, Ark., since 1929, has resigned to accept a similar position with General American Oil Company of Texas, with headquarters in Shreveport, La.

ATLAS H. THOMPSON, accountant for The California Company at Midland, Tex., was married to MISS MAURINE FORD of Dallas, in the latter city, on July 14.

DR. GUSTAV EGLOFF, director of research, Universal Oil Products Company, has returned to the Chicago office from the World Chemical Engineering Congress, recently held in London, England.

HAL FESSLER, formerly representative for Black, Sivalls & Bryson, Inc., at Kilgore, Tex., has been transferred to Shreveport, La. FLOYD MYERS, formerly at Beeville, has been moved to Kilgore, and GEORGE SMITH transferred from Alice to Beeville by the company. IKE POOLE, All-American basketball center of the University of Arkansas, is with the company at Houston, Tex.

DR. I. F. BINGHAM, professor of petroleum engineering at Oklahoma University, was a business visitor to Shreveport, La., last week.

W. M. LOURCEY, land man for Gulf Oil Corporation, Fort Worth, Tex., has been called to Smyrna, Fla., by the serious illness of his father.

A. L. ACKERS, division geologist for Stanolind Oil & Gas Company, Fort Worth, Tex., has just returned from a two weeks' vacation spent in his home at Staunton, Ill.

GRADY RUSSELL, formerly in the Kilgore, Tex., office of the Texas Railroad Commission, has been transferred to the Corpus Christi office, where he will assist J. F. FOUCH, deputy supervisor.

T. F. MORTON, attorney; J. W. HAWLEY, land man, and MISS FRANCES NAYLOR, secretary, all from the joint office of Tide Water Oil Company and Seaboard Oil Company at Palestine, have been transferred to Dallas, Tex., where they will be connected with the operating headquarters of Seaboard Oil Corporation.

W. P. BODEN, representative for the General American Tank Car Corporation, has recently been transferred to Shreveport, La.

M. H. CONRAD, refinery department, Mid-Continent Petroleum Corporation, Tulsa, is visiting at points in Missouri while on vacation.

W. A. (WHITEY) MAY, scout for Texas Pipe Line Company, Tyler, Tex., has been named assistant to the superintendent in the East Texas district.

W. T. DOHERTY, production engineer, Humble Oil & Refining Company, has been transferred from the Houston, Tex., office to the West Texas division.

JAMES A. FAWCETT III, Chicago, Ill., representative for the Pennsylvania Grade Crude Oil Association, and MISS ALDA RAIRIGH, of Oil City, Pa., were married recently.

CARL E. REISTLE, JR., formerly engineer for Associated Engineers Committee of East Texas, is now with Humble Oil & Refining Company, production department, Houston, Tex.

J. R. LEWALLEN, traffic manager, Tide Water Oil Co., Tulsa, has returned from a vacation in Canada, and J. E. ROTH, Tide Water production superintendent, has gone to Canada on his vacation.

SID MOOR, assistant division superintendent for Humble Oil & Refining Company at Houston, Tex., has been transferred to the East Texas division. His duties were taken over by W. J. BROWN, who was transferred from the Amelia district.

J. L. VAN PELT, superintendent of the crude oil department of Humble Oil & Refining Company, has been transferred from Longview, Tex., to the Talco field. J. O. HOLLOWAY, superintendent of production for the company, has also been transferred to Talco from Gladewater, Tex.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The 6,000 stockholders in the Standard Oil Company of New Jersey will turn in their stock and in return will receive, ratably, shares of stock in the 35 constituent companies. When this is accomplished the Standard of New Jersey will be "dissolved." Eight stockholders in the old company own a majority of the shares. John D. Rockefeller leads with 26,411. No one else owns more than 5,141 shares.

Al Bryan, of Painesville, Ohio, bought a lot on which to build his home. Before building he decided to find his own fuel. He drilled on his lot and struck gas at 145 feet.

20 YEARS AGO

The war in Europe is seriously affecting the oil business and crude and refined markets are weakening.

It is believed the peak of automobile production is not far distant. Cars are now so well made they do not take headers into the scrap heap as quickly as early-day benzine buggies. Also, like other fads, the automobile is expected to lose its grip on the popular fancy.

James E. Harrington, Tulsa oil operator, is killed by lightning while playing golf at the Tulsa Country Club with W. L. Connelly and J. P. Flanagan. His companions were unhurt, although severely shocked.

Paul Arbon, Tulsa oil man, and a native of England, is one of England's crack flyers in the European war.

10 YEARS AGO

James W. Collopy, Muskogee, Okla., oil producer, drops dead while engaged in conversation with John A. Connolly, another oil man.

Fred Thilenius, of the Prairie Pipe Line Company, receives a $100 award for the best paper presented at the A.S.M.E. convention in San Francisco, Calif. "Diesel Engines on Pipe Lines" was the subject of the paper.

JACK PHILLIPS of the Shore Line Oil Company of Calgary, Alberta, made a trip recently to Vancouver, British Columbia.

LOUIS A. SCHOLL, JR., chief geophysicist of Texas Company, Houston, Tex., is spending his vacation on a trip to California.

PAUL BROWER, assistant superintendent of Magnolia Petroleum Company at Longview, Tex., has resigned to go into the water contracting business.

BERT JOHNSTON, who has been drilling on Mar Jon Oil Company No. 3 near Lundbreck, Alberta, spent a short holiday recently at Vancouver and Pacific coast points.

JOHN T. HAYWARD, chief engineer, Barnsdall Oil Co., Tulsa, has been named national chairman of Drilling Practice Committee, A.P.I., to succeed W. T. DOHERTY, resigned.

D. W. F. HUMPHREY, president of the Associated Oil Company, was in Los Angeles, Calif., last week on business but has subsequently returned to the home office in San Francisco, Calif.

R. C. FITZSIMMONS of Chicago, Ill., president of the International Bitumen Company, was in Edmonton recently, in connection with arrangements for the company's new plant at Bitumont in northern Alberta.

C. R. BICKEL, district superintendent for Shell Petroleum Corporation, has been transferred from McPherson, Kans., to Great Bend, Kans., where he will have charge of a new office the company is opening.

HENRY G. HUNT, secretary of the Michigan Petroleum Industries Committee, has returned to Mount Pleasant, Mich., after treatment at the Battle Creek sanitarium, where he stopped on his return from a recent conference in Chicago.

PARAGRAPHS

GEORGE PRATT, with the Gulf Oil Corporation at Amarillo, Tex., is vacationing with his family in Colorado.

M. J. BONHAM, land man for the Continental Oil Company in Fort Worth, Tex., was married to MISS FRANCES KING of Victoria, Tex., in that city on July 12.

JACK MATHESON of the International Petroleum Company staff at Talara, Peru, formerly of Petrolia, Ontario, is making a good recovery from an appendicitis operation. He left Petrolia for Peru last March.

HECTOR MACKENZIE, since 1921 with an oil company in Sarawak, has returned to Canada. After spending a holiday at Waterton Lakes National Park, Alberta, he will make his home in British Columbia.

FORREST E. LOVE, representative of the Tretolite Company at Shawnee, Okla., was married to MISS ALICE SMITH of Shawnee on July 12. The couple went to the Texas Centennial for their wedding trip and are now at home in Shawnee.

R. R. O'NEIL has been transferred from the Houston office to Midland, Tex., by the Shell Petroleum Corporation.

THEODORE C. PETERS and BENTON S. BROOKS, paleontologists with the Shell Petroleum Corporation at Tulsa, have been transferred to the Wichita, Kans., office of the company where they will establish a laboratory at the company's district geological office.

J. GARFIELD BUELL, CHARLES L. McMAHON, HARRY STEKOLL, J. F. DARBY and EDWARD H. MOORE, all Mid-Continent oil producers, will visit the Baku oil fields of Soviet Russia this summer. They will meet in Berlin and will make the trip to Baku together. Mr. Moore is already in Europe and the others sailed from New York Saturday.

J. L. BURKE, traffic manager for Stanolind Pipe Line Company, Tulsa, will receive the honorary degree of LL.D. at the Conception College alumni convention to be held August 19 at Conception, Mo. The degree is awarded in recognition of Mr. Burke's work in organizing and expanding the Conception College Alumni Association during his two three-year terms as president of that group. Mr. Burke attended Conception College before coming to Tulsa. He is an attorney with the degree of bachelor of laws from Tulsa University.

GUY ADSIT, scout for Phillips Petroleum Company in the Shreveport region, is now on vacation.

LEONARD S. ALLEN, of the National Tank Company, is on a trip to Houston, Tex., and Rodessa, La.

HON. C. C. ROSS, minister of lands and mines for Alberta, recently visited Calgary where MRS. ROSS is recuperating from the effects of an automobile accident.

W. L. "BILL" STEWART, vice president of the Union Oil Company, finished well up toward the top of the list in the Los Angeles-to-Honolulu yacht race as his Santana crossed the finish line in fourth place.

S. B. SEVERSON, president and general manager of the Dominion Natural Gas Company, of Buffalo, N. Y., visited St. Thomas, Ontario, recently in connection with negotiations for the St. Thomas natural gas franchise.

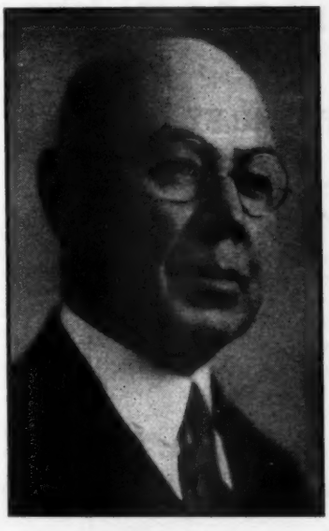
F. A. GABY, vice president, and L. E. WOOLLEY, manager of refineries, of the British American Oil Company of Toronto, Ontario, attended the official opening of the company's new gasoline absorption plant in the South Turner field, recently.

HOWARD BOYD, chief scout, Dallas, Tex.; JOHNNIE JONES, in the land department at Oklahoma City, Okla., and JOE SIMPKINS, in the geophysical department at Sonora, Tex., all with the Magnolia Petroleum Company, are making a two weeks' motor trip up the Atlantic seaboard, visiting the New England states.

MR. and MRS. JACK SUTHERLAND and son JOHN sailed recently on the SS "Santa Lucia" from New York for Peru, where Mr. Sutherland will resume his work in the drilling field at Negritos, after a three-months holiday in Petrolia, Oil Springs and other Ontario points. They were accompanied by MISS IRENE LINDSAY who will be married at Guayaquil, Ecuador, to WILLIAM BRAYBROOK, also employed in the Negritos field.

Retires After Active Life

When Charles B. Ellis, general traffic manager of the Gulf Oil Corporation, retires from active service August 1, American transportation agencies will lose the wealth of experience which this traffic authority has accumulated through his 55 years of activity.



CHARLES B. ELLIS

After being educated in public and private schools in North Carolina and Kentucky, Mr. Ellis began work as a telegraph operator with the Kentucky Central. In the fall of 1895 he joined the Southern Pacific, and was stationed at the New Orleans general office, serving as train agent, ticket agent and rate clerk. On April 1, 1901, he was appointed division freight and passenger agent of the Southern Pacific lines, and secretary and director of the I. & V. Railroad, with headquarters in New Iberia, La. Five years later he was transferred to New Orleans as chief clerk in the freight traffic office. In 1906 he was appointed division freight and passenger agent of the Louisiana lines of the Southern Pacific, with headquarters in Lake Charles.

In 1907 Mr. Ellis left the Southern Pacific to become traffic manager of the Gulf Refining Company in New Orleans. Three years later this department was moved to Pittsburgh, Pa., where, under the direction of Mr. Ellis, it became one of the most efficient organizations engaged in the direction of traffic.

Since going to the Gulf, Mr. Ellis has been president of the Traffic Club of Pittsburgh, a member of the General Traffic and Shippers Council of the Chamber of Commerce, and a member of the Transportation Committees of the American Petroleum Institute and the National Petroleum Association.

H. E. McCONNELL, vice president and chief engineer for Durnite Company, and ARCH BOWMAN of Tulsa have gone to Hershey, Neb., on a business trip.

DR. O. B. HOPKINS, chief geologist of Imperial Oil, Ltd., with his wife and daughter, arrived recently in Calgary, Alberta, from Toronto, Ontario, and is spending a couple of weeks in Alberta.

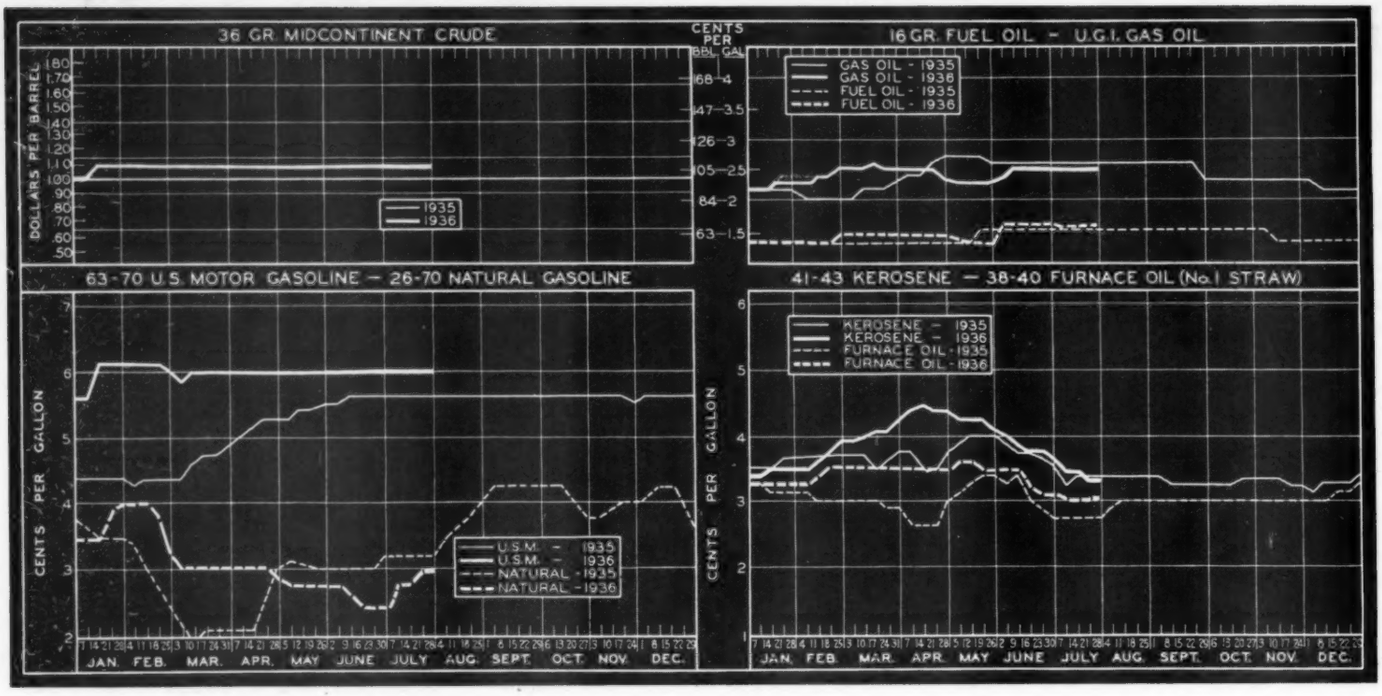
G. T. ROCKENBAUGH, representative for Beaumont Iron Works, with headquarters at Dallas, Tex., is recuperating from serious injuries received in an automobile accident near that city on June 26.

JOHN J. HIGGINS, geologist of California, has moved to Corpus Christi, Tex. A former resident of that city, Mr. Higgins was drawn back by the discovery of oil on a tract near some of his own property.

TOM BONDS, assistant superintendent of Humble Oil & Refining Company, has been transferred from Tyler, Tex., to Sugarland, Tex. FRED S. SEELEY, division superintendent of the company at Tyler, has resigned to go into the contracting business.

H. R. MILNER, K. C. of Edmonton, president of Canadian Utilities, Ltd., accompanied by H. E. TIMMIS of the Canadian Western Natural Gas, Light, Heart & Power Company of Calgary, recently made an airplane trip from Calgary to Lethbridge where they conferred with local officials of the Canadian Western Company.

C. W. CHRISTIAN of the General Petroleum Corporation, who has been manager of the Los Angeles, Calif., district for the past three years, has been appointed sales manager of the northern division with offices in San Francisco, Calif., and he has been succeeded by C. A. TURNEY, who for several years was merchandising manager of the Firestone Tire & Rubber Company in Los Angeles.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Natural Gasoline Occupies Center of Group 3 Stage; Motor Fuel Steady

By T. F. SMILEY

With the gasoline market in Group 3 continuing to put up a highly satisfactory performance but indulging in no pyrotechnics, the naturals had no difficulty in slipping out to the center of the stage this week. Scarcely able to win a friendly glance a month ago, the naturals now are in active demand, with quotations about three-quarters of a cent higher than they were at the opening of July. Current needs of refiners and jobbers are in excess of current output. Stocks are being drawn upon in Texas as well as Oklahoma, and this draft upon storage is expected to continue for several months. Foreign buyers are in the market, and supplies at the Gulf are beginning to recede as export movement grows.

BUYING SHIFTS FROM 18-POUND

There has been a pronounced shift in the buying from 18-pound material to the 26-70. Jobbers have found it profitable to buy 18-pound natural at prices which prevailed throughout most of June and to blend it with their naphtha or cheap gasoline. The finished motor fuel thus produced cost the jobber less than would refinery gasoline of similar quality. But with natural gasoline prices rising and refinery gasoline prices virtually at a standstill the advantages of making motor fuel in this way diminish, with the result that jobber buying is less active than it was. As jobber demand falls off, however, refinery demand mounts, so that the call upon the natural gasoline manufacturer is not affected.

Contract movement of gasoline maintains its high level, but a slight recession in spot business was reported. Some of the better informed market observers not only declare gasoline prices must be lifted to higher levels to enable refiners to make a profit out of their overall operations, but express confidence that the next few weeks will witness the higher prices. With the burner oils backing up, some refiners assert they actually are operating their plants at a loss.

Inquiries for low-octane gasoline were received in Gulf Coast areas in the past week, but they brought little material to light. Throughout the Mid-Continent territory refiners reported heavy movement on contract. Refinery operations were being conducted at a high rate, but total stocks of gasoline continued to disclose substantial shrinkage, apparently supporting the contention of many observers that the gasoline market will reach the end of its peak consuming season in a healthy condition.

Although the drouth is making its influence felt on gasoline consumption in certain areas, the trade generally is not displaying deep concern over this market factor. It is pointed out that for the most part the districts most severely hit by the drouth are those from which a relatively small percentage of the gasoline business comes anyway.

KEROSENE MARKET STILL SOFT

Softness which has marked the kerosene and tractor fuel markets for weeks was still apparent. As the two products are closely associated in agricultural use, it seems evident that the drouth is at least a factor in the listless demand for them. The usual spread between the 41-43 and 42-44 grades of kerosene was hardly discernible. In connection with the effect of the drouth on consumption of tractor fuel it is pointed out that the quantity of fuel used in threshing a given acreage of grain is the same whether the crop yield is large or small.

In the light-distillate group prime white was easy to find, and there was little quibbling over price. For reasons not readily understood the Nos. 1 and 2 straw and the No. 2 dark were not at all easy to find in quantity, according to some buyers, and the difference in price between the prime white and the No. 1 straw was declared to be more imaginary than real. There were said to be fewer inquiries for furnace oils in the last few days than there were two weeks ago.

Little gas oil was reported to be going to the trade. Not much appeared to be available outside of Oklahoma City, and most of that was moving to other refineries for cracking purposes.

Refined Oil Market Barometer

Movement of gasoline from refineries to retail outlets continues in heavy volume, and July consumption is expected to show a marked advance over that of 1935. Buoyancy of the naturals provides the week's feature. Buying of heating oils for storage is slow in getting under way and some observers are predicting another last-hour rush like that witnessed last spring.

MID-CONTINENT. Natural gasoline strong. Refinery gasoline firm. Kerosene weak.

EAST COAST. Motor fuel gaining strength notwithstanding retail price-cutting.

GULF COAST. Gasoline firm. Kerosene weak. Gas oils tight.

PENNSYLVANIA. Gasoline firm. Kerosene off.

CALIFORNIA. Gasoline firm. Gas oil soft.

CHICAGO. Gasoline strong. Kerosene slow. Heavy fuels steady.

Retail Gasoline Price Wars Flare Up Anew in Metropolitan New York

By H. STANLEY NORMAN

NEW YORK, July 27.—Retail service station gasoline price warfare flared anew last week in metropolitan New York and extended into numerous suburbs within a radius of 50 miles. However, strength in the Atlantic Seaboard refinery gasoline market and in export quotations from New York and Gulf Coast ports indicated that the price cutting in the metropolitan area is not reflective of organic weakness.

Refiners are bullish in most instances and the volume in which motor fuel is being ordered out on old contracts and on spot business is confirming predictions of an extremely satisfactory month. Final figures for July consumption will not be available for several weeks, but it is predicted demand will show about 10 per cent increase over July, 1934.

Neutral oils are especially strong, but the entire lube list is firm.

The Bunker C oil market continues strong. There has been talk that quotations of $1.05 a barrel might be advanced slightly, but none of the leading marketers have seen fit to take the initiative.

Diesel fuel is also enjoying firm demand, but the price of $1.65 a barrel in New York is unchanged and marketers say this quotation probably will prevail for a time. A majority of stations in metropolitan New York and immediate vicinity are selling regular or house-brand motor fuel at prices ranging from 6 gallons for 98 cents to 8 gallons for $1.05, including state tax of 3 cents a gallon. In most instances the "bargain counter" prices are a reflection of turning stations over to lessees. Socony-Vacuum Oil Corp. last week completed divestment of company-owned service stations in Manhattan, the Bronx, Brooklyn, Queens, N. Y.; Portland, Me.; Manchester, N. H.; and Burlington, Vt. The Standard Oil Co. of New Jersey discontinued posting service station prices at Atlantic City and Newark, N. J., where all stations formerly operated by the company have been leased or sold. The Atlantic City and Newark territories, however, continue in a zone of warfare among retailers, and tank-wagon prices there are from a half-cent to a cent below normal.

The light heating oil market in New York territory is rather sloppy with relatively slight turnover due to a differential between offering quotations and buyers' ideas of price. However, the market could not be considered changed in view of quotations holding at previous levels of 4⅞ cents for No. 1; 4¼ cents for No. 2 and 3¾ cents for No. 4 grades. Limited volume was moving at prices a shade under the regular quotations, but is regarded as of little importance. Both buyers and sellers appear content to wait a few weeks before actually testing the market.

Some buyers feel that prices will not move higher for the present and that they will have opportunity to fill their storage for winter business at prevailing markets, even though further concessions are not forthcoming from refiners. In view of the anticipated demand for most all grades of burning oil next winter, the refiners are equally content to hold stocks in their own storage tanks and feel satisfied that the prices will not move into lower territory. Refiners express the belief that an early winter season will bring a rush for material that will perhaps pay them for their waiting tactics.

Kerosene prices are unchanged, but the demand is not satisfactory. There is some material reaching the market at an eighth-cent to a quarter-cent below average quotations, but like other concession material it is limited and insufficient to cause much concern among refiners.

The export market along the Atlantic Seaboard and at Gulf Coast ports remains in strong position with inquiries for material gaining.

A majority of the movement in Atlantic waters is confined to coastwise shipment at the present time, but accumulation of gasoline and other products at Gulf Coast ports is expected eventually to find their ways into transatlantic cargoes.

Crude scale wax and fully refined wax sales were steady at prevailing prices, but the market was lacking particular feature. The domestic suppliers of wax continue to feel the penalty of lower-priced material from Russian and Rumanian sources, particularly in the South American trade.

Key men in the marketing divisions of most all eastern companies are watching with intense interest reception of the marketing code draft by the Federal Trade Commission to which it has been presented for consideration. Preparations are being perfected for broad participation in public hearings on the code. Some market observers hold the hope that approval of the marketing code by the Federal Trade Commission will go far in eliminating practices in the New York territory which contribute to the "fire sale" quotations of 6 gallons for 98 cents up to 8 gallons for $1.05. The break in retail prices was caused, so most observers contend, by the rapid swing from company-owned and operated stations into private management. Correction of the reaction, however, is not a serious problem, declare those in position to know. Lessees of service stations formerly operated by companies are thought to be shading their margins normally anticipated in an effort to build up gallonage and attract permanent customers who may be depended on for business in the future.

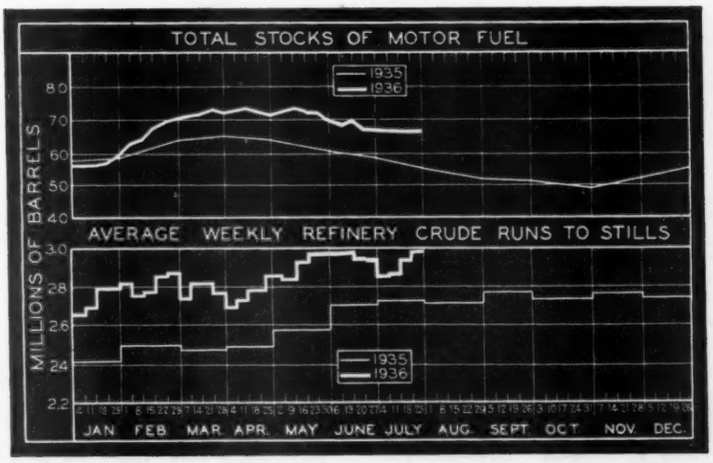
The company lessors of stations are displaying cooperative attitude with their lessees and are making it possible for them to meet legitimate competition through tank-wagon quotations in the depressed territories. Parts of New England and New Jersey continue below normal and the fact that Newark gasoline prices, just across the Hudson River, were slashed 10 days ago probably contributed to existing conditions in metropolitan New York and territory to the north and east.

A. P. I. Weekly Refinery Statistics

Week Ending July 25, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	499,000	18,574,000	10,773,000
Appalachian	94.8	110,000	2,480,000	512,000
Indiana, Illinois, Kentucky	96.1	400,000	9,290,000	5,047,000
Oklahoma, Kansas, Missouri	84.8	317,000	6,000,000	3,408,000
Inland Texas	48.5	115,000	1,347,000	1,705,000
Texas Gulf	96.8	647,000	6,753,000	7,833,000
Louisiana Gulf	96.4	135,000	1,859,000	2,396,000
North Louisiana and Arkansas	90.0	39,000	323,000	495,000
Rocky Mountains	61.9	50,000	1,161,000	799,000
California	92.6	495,000	12,573,000	72,242,000
Total reported	89.7	2,807,000	60,360,000	105,150,000
Estimated unreported	.....	183,000	5,459,000	2,445,000
*Estimated total	.....	2,990,000	65,819,000	107,595,000
*Estimated total previous week	.....	2,925,000	66,134,000	106,999,000
†July 31, 1935	.....	2,739,000	56,446,000	108,322,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



Crude Oil Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ending July 11, totaled 309,383,000 bbls., according to data compiled by the Bureau of Mines for Harold L. Ickes, secretary of the interior. Compared with the figures of the previous week, this total represents a decrease of 1,235,000 bbls., comprising decreases of 1,186,000 and 49,000 bbls. in stocks of domestic and foreign crude, respectively.

Imports of crude declined slightly, daily average being 86,000 bbls. compared with an average of 90,000 bbls. for the week ending July 4.

STOCKS OF CRUDE PETROLEUM JULY 4 AND 11, 1936

(Barrels of 42 gallons)

Grade of crude oil—	July 4	July 11
Penn. Grade	4,207,000	4,249,000
Other Appalachian	847,000	808,000
Lima-N.E. Indiana-Michigan	1,296,000	1,281,000
Ill.-S.W. Ind.	10,218,000	10,226,000
N. La. and Ark.	10,510,000	10,644,000
W. Tex. and S.E. New Mexico	28,724,000	28,692,000
East Texas	20,955,000	21,152,000
Other Mid-Cont.	124,873,000	123,693,000
Gulf Coast	28,709,000	28,804,000
Rocky Mountain	26,490,000	26,398,000
California	34,445,000	34,191,000
Foreign	2,494,000	2,445,000
Total reported weekly	293,768,000	292,583,000
Estimate of unreported stocks	16,850,000	16,800,000
Total stocks	310,618,000	309,383,000

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of July 28, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Chicago	15.5	17.5	4.0	10.1
Decatur, Ill.	16.0	18.0	4.0	10.1
E. St. Louis	15.7	17.7	4.0	9.9
Joliet	14.5	17.5	4.0	10.1
Peoria	16.0	18.0	4.0	10.1
Quincy	15.8	17.8	4.0	9.9
Davenport, Ia.	16.0	(†)	4.0	10.1
Des Moines	15.8	(†)	4.0	9 9
Mason City	16.2	(†)	4.0	10.3
Sioux City	16.0	(†)	4.0	10.1
Duluth, Minn.	16.8	18.8	4.0	10.9
Mankato	16 4	18.4	4.0	10.5
Minneapolis	16.4	18 4	4.0	10.5
LaCrosse, Wis.	17.4	19.4	5.0	10.6
Green Bay	17.7	19.7	5.0	10.8
Milwaukee	16.3	18.3	5.0	10 4
Madison	17.4	19.4	5.0	10 5
Detroit, Mich.	15.0	17.0	4.0	8.8
Grand Rapids	15.4	17.4	4.0	9.3
Saginaw	15.6	17.6	4.0	10.1
Evansville, Ind.	17 7	19.7	5.0	10.6
Indianapolis	17.9	19.9	5.0	10.8
South Bend	18.1	20.1	5.0	11.0
Fargo, N. Dak.	17.4	19.4	4.0	11.5
Huron, S. Dak.	17.9	19 9	5.0	11.0
Sioux Falls	17.4	19.4	5.0	10.5
Kans. City, Mo.*	15.4	17.4	4.0	8.0
Springfield	15.1	17.1	4.0	9.2
St. Louis	15.7	17.7	4.0	9.8
St. Joseph*	15.4	17.4	4.0	9.5
Wichita, Kans.	14.9	16.9	4.0	8.0
Bartlesville, Ok.	15.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 2½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective June 1, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. No. 1, less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents. Stanolex furnace oil, less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents. Stanolex fuel "A," less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.0
Augusta	20.0	22.0	7.0	*13 0
Macon	20.0	22.0	7.0	*13.0
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21.0	23.0	8.0	11.0
Mobile	21.0	23.0	9.0	10.0
Montgomery	22.0	24.0	9.0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21.5	7.0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	10.0
Miami	19.5	21.5	8.0	12.5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	19.0	21.0	6.0	11.0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	7.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21.5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	....	6.0	14.5
Billings	22.5	24.5	6.0	14.5
Helena	22.5	24.5	6.0	14.5
Great Falls	22.5	24.5	6.0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23 0	25.0	6 0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.5	20.5	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	21.0	22.0	6.0	‡16.0
Reno, Nev.	19 5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20 5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	13.5	....	4.0	9.0
Newark	13.0	....	4.0	7.5
Annapolis, Md.	15.6	....	5.0	10.0
Baltimore	14.5	....	5.0	8.0
Cumberland	16.6	....	5.0	12.7
Wash'g'n, D. C.	12.5	16.0	3.0	9.0
Danville, Va.	17.5	21 0	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Raonoke	17.5	21.0	6.0	12 9
Charles'n, W. Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	15.0	18.5	5.0	12.2
Charlotte, N. C.	18.4	21.9	7.0	12.6
Hickory	18.9	22.4	7.0	13 0
Mt. Airy	18.7	22.2	7.0	12 8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	12.7
Charleston, S.C.	17.0	20.5	7.0	11.3
Columbia	18.2	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	18.4	20.4	6.0	10.4
McCook	19.1	21.1	6.0	11.1
Norfolk	18.8	20.8	6.0	10.8
North Platte	19.2	21.2	6.0	11.2
Scottsbluff	19.9	21.9	6.0	11.9

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	16.5	17.5	5.0	9.5
Pittsburgh	17.5	19.5	5.0	9.0
Allentown	17.0	18.0	5.0	9.5
Erie	17.5	18.5	5.0	8.0
Scranton	16.75	17.0	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	17.0	5.0	10.0
Wilmington	17.0	17.0	5.0	9.0
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	14.0	17.5	4.0	7.75
Hartford, Conn.	12.5	16.0	4.0	7.0
New Haven	12.5	16.0	4.0	7.5
Providence, R. I.	12.0	15.5	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
N. Orleans, La.	18.5	22.0	‡9.0	13.0
Baton Rouge	17.0	20.5	†7.0	11.5
Alexandria	18.5	....	†*8.0	11.0
Lafayette	19.0	....	‡*8.0	12.5
Lake Charles	19.0	....	†*8.0	11.0
Shreveport	16.5	20.0	†7.0	10.0
Knoxville, Tenn.	20.5	24.0	8.0	14.0
Memphis	19.0	22.5	8.0	11.0
Chattanooga	20.5	24.0	8.0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Post deal	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Albany, N. Y.	13.0	16.5	4.0	7.75
*Met. N. Y..				
Manhtn., Bronx	13.2	....	4.0	7.25
Staten Island	13.2	18.2	4.0	7.25
Qu'ns & Br'klyn	13.2	....	4.0	7.25
Buffalo	13.5	17.0	4.0	8.25
Rochester	13.5	17.0	4.0	8.25
Syracuse	13.5	17.0	4.0	8.75
Boston, Mass.	13.0	16.5	4.0	7.50
Portland, Me.	14.5	....	5.0	7.75
Manch'ter, N. H.	15.0	....	5.0	8.00
Burlington, Vt.	16.5	....	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	15.0	17.0	5.0	7.5
Fort Worth	15.0	17.0	5.0	8.5
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5.0	8.5
El Paso	17.0	19.0	5.0	8.0
Muskogee, Ok.	17.0	19.0	5.0	8.0
Okla. City	17.0	19.0	5.0	8.0
Tulsa	17.0	19.0	5.0	8.0
Ft. Smith, Ark.	17.0	19.0	5.0	8.0
Little Rock	19.5	21.5	7.5	9.5
Texarkana	16.5	18.5	5.0	8.5

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	32.5	7.0	22.0
Saskatoon, Sask.	32.3	35.3	7.0	24.8
Edmonton, Alta.	31.7	34.7	7.0	24.2
Calgary, Alta.	29.0	32.0	7.0	21.5
Vancouver, B. C.	25.0	29.0	7.0	23.0
Montreal, Que.	19.5	22.0	6.0	17.5
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Residual Oil Tariffs

COUTTS, Alberta, July 25.—A case of considerable importance was heard by Judge Walter J. Evans of New York at Great Falls recently when test actions were brought before the U. S. Customs Court by British American and Maple Leaf Petroleums companies, operating refineries here. The refining companies protested the payment of duties on residue returned to the United States from Montana crude refined in Canada.

Large quantities of Montana crude have been used in the refineries of western Canada. Residual products have been brought back to Montana for use in road building and as fuel; and the market thus afforded for these products has assisted in maintaining a Canadian market for the Montana crude.

After a hearing the cases were transferred to the Customs Court in New York city, where they will be decided.

Canadian Imports

OTTAWA, Ontario, July 25.—Petroleum, asphalt and their products imported into Canada in April were valued at $2,502,722 compared with a March total of $3,008,511. The chief sources of supply in April, with percentages, were: United States, 90.5; Peru, 4.4; Colombia, 4.4.

Crude petroleum imports during April amounted to 46,904,990 gallons from the United States, 4,015,784 gallons from Colombia, and 3,222,122 gallons from Peru; comparing with March imports of 51,403,028 gallons from the United States, 10,028,708 gallons from Peru, and 3,951,463 gallons from Colombia.

Exports of petroleum and its products from Canada in April were valued at $153,132 against $25,167 in March.

Chester H. Milliken, for the past 10 years with Zingery Oil Map Co. at Abilene, Tex., and Fort Worth, Tex., and A. Smith Gill, for eight years with the same company in Fort Worth, have resigned and organized Southwest Mapping Co., with offices in the Fort Worth National Bank Building, Fort Worth.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 28, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d gr.)	.04⅞	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
64-66 375	.04⅞	.05⅛
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400	.04⅞	.05
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:	
62 octane and below	.05⅝
63-67 octane	.06⅛
68-70 octane (regular)	.06⅜
60-62 400	.05⅝ .06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:	
62 octane and below	.05⅜
63-67 octane	.06⅛
68-70 octane (regular)	.06⅜

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05⅛
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05⅛
68-70 octane (regular)	.06	.06⅛
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅞
60-64.9 octane	.07
65-70 octane	.07¼
64-66 375	.05⅝
68-70 350	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400	.07⅝	.08½

EAST COAST (domestic)—

U. S. Motor below 60 octane:	
*New York (Bayonne)	.06½
Baltimore	.06½
U. S. Motor, 60-64.9 octane:	
* New York (Bayonne)	.06⅝
Philadelphia	.06⅝
Boston	.06⅝
Baltimore	.06⅝
Charleston, S. C.	.06⅝
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07
Philadelphia	.07
Boston	.07
Baltimore	.07
Charleston, S. C.	.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅝	.05⅝
60-64.9 octane		.06
65 octane and higher	.06¼	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03	.03¼
Grade 18-55	.03⅞	.04
Low vapor pressure grade:		
*14 lb. v.p. (max.)		.04½
*12 lb. v.p. (max.)		.04¾

*Nominal.

NORTH TEXAS—

Grade 26-70		.03
Grade 18-55	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.02⅞	.03

CALIFORNIA—

75-85 375-390	.07	.07⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.03⅝	.03⅞
41-43 gr., 300-350 l.b.p., 110-125, flash, 500-520 e.p.	.03⅝	.04
46-48 gr., 210-230 l.b.p., 480 max, e.p.	.04⅝	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03⅝
42-44	.03½	.03⅝

NORTH TEXAS—

41-43	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03⅝	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅝	.04½

PENNSYLVANIA (inland refineries)—

45	.05	.05⅛
46	.05⅛	.05½
47	.05¼	.05⅝

CHICAGO (Based on Group 3)—

41-43	.03½	.03¾
42-44	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04⅞

GULF COAST (domestic)—

41-43		.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅛	.03¼
No. 1 straw, 38-40	.03	.03⅛
No. 2 straw, 32-36	.02¾	.03
No. 2 dark, 32-36	.02⅝	.02⅞
No. 3, 28-32	.02½	.02⅝
No. 3, 15 and above, 28-32	.02⅝	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅛	.03⅜
No. 1 straw, 38-40	.03	.03⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.02⅝	.02⅞

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03¼	.03½
No. 3, 28-32	.03	.03⅛

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-42	.03⅛	.03¼
No. 1 straw, 38-40	.03	.03⅛
No. 2 straw, 32-36	.02⅝	.03
No. 2 dark, 32-36	.02⅝	.02⅞
No. 3 zero to 15, 28-32	.02⅝	.02⅞
No. 3 15 and above, 28-32	.02⅝	.02⅛

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅞
*No. 2	.04¼
*No. 4	.03⅝

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	02½	.02⅝
No. 4, 24-28, low cold test	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test	.72½	.80
Below 18 fuel oil, industrial	.67½	.75

NORTH TEXAS—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28, low cold test	.95	1.00
No. 5, low cold test	.77½	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02⅝
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5, 18-22	.72½	.75
No. 6, 10-16	.62½	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04⅝	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.00	1.15
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.10	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.75	.95
12-17 (tankcars)	.70	.96
San Joaquin Valley:		
10-18 (tankcars)	.65	.75
San Francisco:		
24 plus diesel, per bbl.		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.85
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼ per bbl.)		1.64
28-30 diesel (tankers)		.04¼
*Bunker C (to ocean-going ships in N. Y. harbor)		1.05
Industrial fuel (tankcars)		.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.21½
150-160 D, 0-10		.18⅝
150-160 D, 15-25		.18
150-160 E, 15-25		.17½
100-110 D, 0-10		.17
Steam refined:		
631 green (treated)		.14
600 dark green (untreated)		.05½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):		
10 pour test	.24½	.25
15 pour test	.23½	.24
20 pour test	.22½	.23
25 pour test	.21½	.22
Steam refined:		
600	.13½	.14
650	.14½	.15
600 Pennsylvania flash	.15½	.16
630 flash	.17½	.18
600 Warren E filtered	.15½	.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.10
180-3		.11¼
180-4		.10⅝
200-3		.11⅝
200-4		.11¼
250-3		.13⅝
250-4		.13¼
280-3		.14⅝
280-4		.14¼
300-3½		.15¼
400-3½		.16
100-2 paraffin oil		.05⅝
15-20 Cold Test:		
200-3		.10⅝
200-4		.10¼
240-3		.12⅝
240-4		.12¼
280-3		.13⅝
280-4		.12⅝

GULF COAST—

Pale Oils:		
200-3	.06½	.07
300-3	.07	.07½
500-3½	.08	.08⅛
750-3½	.08⅛	.09
1,200-3⅛	.09	.09⅛
2,500-4	.09⅛	.09½
Red Oils:		
200-5-6	.06½	.06⅝
300-5-6	.06¼	.07
500-5-6	.07⅛	.08
750	.08	.08⅛
1,200-5-6	.08⅛	.09

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3		.06
200-2½-3		.06¼
300-3-3½		.06½
400-3-4	.08½	.09¼
450-3-4	.09⅜	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.09
600-5-6½	.09	.09½
700-6½ plus	.09⅝	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 750° F., color, 400-405 flash:		
Zero pour test	.20	.20½
10 pour test	.19	.19½
15 pour test	.18½	.19
25 pour test	.17½	.18
180 vis. at 70° F., 3 color		
25 pour test	.20	.20½
200 vis. at 70° F., 3 color:		
Zero pour test	.23½	.24
10 pour test	.22½	.23
15 pour test	.22	.22½
25 pour test	.21	.21½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0240
124-126 (a.m.p.) w.c. scale	.0240	.0245

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.a.	.0240	.0250
124-126 (a.m.p.) y.a.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅜
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05⅝

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅝
61-63 390	.06⅝	.06¼
64-66 375		.05¼

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¼
55-65 octane	.04½	.04⅝
65-67 octane	.04⅝	.05
67-69 octane	.05	.05¼
Above 69 octane	.5¼	.05½
65 and above 400 e.p.	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.03
41-43 water white		.03¼
44 water white		.03⅝

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.22	.22½
600 S.R. unfiltered	.20	.20⅝
650 S.R. unfiltered	.21	.21½
600 flash S.R.	.22	.22½
630 flash S.R.	.24	.24½
Bright Stocks:		
8 color	.23	.23½
6½ plus color in dilution	.27	.27½

NEUTRAL OIL

200-3 color		.27½
150-3 color		.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.a.	.0260	.0270
124-126 y.a.	.0240	.0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.18
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.31
Pondera, Mont. (Jan. 29, 1936)*‡	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1923)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont.	1.28
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (June 15, 1936)*	1.42
Midland, Mich. (June 15, 1936)†	1.42
West Branch, Mich. (June 15, 1936)	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co. †Simrall Corp.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana, El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.)	2.42
Group B (Includes Titusville district.	2.41
Group C (Includes Turkey and Tidioute districts.	2.40
Group D (Includes Bear Creek and Porkey districts.	2.39
Group E (Includes Edeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clean naphtha	3.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .74

*F.o.b. ship, based on April transactions and exclusive of production and export taxes and bar dues.

Laurence H. Favrot, president of Apex Construction Co., Houston, Tex., has moved to Tulsa, where he is to be located permanently. G. A. Peterkin, vice president, will remain in charge of the Houston office.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E.Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.65	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.70	.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.66	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.68	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.71	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.74	.86	.78	.72	....	.82	.82
23-23.9	.96	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.77	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.80	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.83	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	.86	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	.88	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	.91	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	.94	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	.97	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	.99	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.12	1.34	1.02	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	1.04	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. Santa Paula and Orcutt posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended July 25 Sales	Week ended July 25 High	Week ended July 25 Low	Week ended July 25 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	700	108½	107	108½	Amerada Corp.	788,675	N.P.	50cQ	7-31-36	$2.00	80	48½	55⅝	39
35⅛	26⅝	17,700	31⅛	28¾	28¾	Atlantic Refining	2,664,904	$25	25cQ	6-15-36	1.00	28	20½	35¼	21½
20	14⅛	20,500	17⅞	17⅛	17½	Barnsdall Corp.	2,131,090	$5	20cQ	8-1-36	‡.20	14¾	5⅞	10	5⅞
21⅝	14	83,500	22⅜	20¾	22⅜	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-36	.20	15¾	3⅜	19¼	6⅝
15¼	11½	43,200	13½	13⅛	13¼	Consolidated Oil Corp.	13,983,287	N.P.	15cQ	8-15-36	.25	12¼	6½	14¼	7¼
38½	28⅛	20,600	33⅞	32¼	32⅞	Continental Oil of Delaware	4,682,671	$5	25c	7-31-36	.62½	35	15½	22¾	15¾
34¾	21	5,600	26⅛	23¼	23¾	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11¾	23½	12
12¼	6⅜	12,100	10	9½	9⅝	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅜	2½
23¾	17¼	23,500	23¾	22¾	23⅛	Mid-Continent Petroleum	1,843,872	$10	40cSA	6-1-36	.40	20½	9½	14¾	9⅛
26¼	16¾	1,500	19	18	19	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅝	..	..
55	19⅞	10,800	55	48	54⅞	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12½	21,700	14⅛	13⅛	13⅜	Ohio Oil Co.	6,563,377	N.P.	25cSA	6-15-36	.30	14¼	9¼	15⅞	8½
18	11¾	2,300	14	13⅛	14	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	14	6¾	9⅝	5½
4¼	1⅝	1,200	2⅞	2½	2⅝	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	23,300	45⅝	43⅞	44¾	Phillips Petroleum	4,152,836	N.P.	50cQ¶	6-1-36	1.25	40	13¾	20¾	13⅜
16½	11⅞	12,400	16¼	15⅝	16⅛	Plymouth Oil Co.	1,050,000	$5	25c	9-30-36	.25	13	6½	16¾	7¼
24⅞	16¼	76,600	21⅜	19⅜	19¾	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6½
43⅝	30¾	6,100	36⅝	34½	36	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-36	1.00	36⅞	20¾	38⅝	20¾
19½	14¾	37,400	19⅞	18⅜	19⅞	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
124	110½	900	124	121	124	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	111	63⅛	89	57
6¾	3½	2,300	4¼	4	4¼	Simms Petroleum	461,698	$10	1.25 liq.	7-20-36	11.75 liq.	18¾	4¾	17⅛	7¼
31½	19½	4,800	27½	26⅛	27½	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17	12½	69,700	14⅞	14	14⅝	Socony-Vacuum	31,151,075	$15	20cSA	3-16-36	.30	15¾	10⅝	19⅞	12½
47⅝	35⅝	18,500	39⅝	38¾	39	Standard Oil of California	13,014,754	N.P.	25cQ†	6-15-36	1.00	41⅛	27¾	42⅞	26½
40⅛	32¾	15,500	37⅛	36	36¾	Standard Oil (Indiana)	15,215,677	$25	25cQ†	6-15-36	1.00	33⅜	23	32¾	23¼
30	25	No sales	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	32	20	41	26
70	51⅛	33,600	65⅜	63¼	63⅜	Standard Oil of New Jersey	25,856,081	$25	75cSA¶	6-15-36	‖1.25	52⅝	35¾	50⅛	39¼
91	72	700	81	80½	81	Sun Oil	1,733,013	N.P.	25cQ	9-15-36	$1 & 7% Stk.	77	60½	74¼	51½
40	28⅞	45,500	40	38¾	39⅞	Texas Corp.	9,340,069	$25	25cQ	7-1-36	1.00	30¼	16½	29⅜	19⅝
15¼	7½	13,600	12⅜	11⅞	12	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	....	9¼	3¼	6½	2½
19⅛	14¾	25,000	17¾	16⅛	17⅜	Tide Water Associated	5,642,342	N.P.	15cQ	9-1-36	....	15⅞	7⅝	14⅜	8
106½	100⅝	400	105	104	105	Tide Water Associated pfd.	626,221	$100	$1.50Q	4-1-36	$6.50	104½	84	87	64½
28½	20⅞	5,000	23⅜	22¼	22¼	Union Oil of California	4,386,070	$25	25cQ	8-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	2,300	28½	27	27⅞	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	2,400	4	3¾	3¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras.

New York Curb

1936 High	1936 Low	Week ended July 25 Sales	Week ended July 25 High	Week ended July 25 Low	Week ended July 25 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
20¼	13¼	7,500	19	16½	18¾	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	650	44	43	44	Buckeye Pipe Line Co.	200,000	$50	75cQ	9-15-36	$3.00	42½	30½	38	26
4⅞	2½	800	2¾	2⅝	2¾	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	50	120¾	120¾	120¾	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	6-29-36	6.50	157	115	150	116
7⅜	3	47,800	5	4¾	4⅞	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4	⅝	500	⅞	¾	¾	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	½
4⅛	1½	11,500	2⅞	2	2½	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34¾	19⅞	14,800	24½	23½	24½	Creole Petroleum	6,974,356	$5	25c	7-15-36	.20	23¾	10	14⅜	9⅝
12	9	200	9⅞	9¾	9⅞	Darby Petroleum	351,390	$5	25cSA	1-15-36	.50	8⅞	4	7½	4⅛
4⅜	1⅞	2,900	4¼	3½	4¼	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
44	39	150	40	39	40	Eureka Pipe Line	50,000	$50	$1Q	5-1-36	4.00	38	33¼	37	30
98	72	5,200	87½	84	87	Gulf Oil Corp.	4,538,101	$25	25c	7-1-36	....	74¾	50¼	76¾	49¾
76½	57	5,400	67⅝	66⅛	66⅞	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7-1-36	1.25	64	44	49½	33¼
24½	20	2,600	21	20¾	20⅞	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-36	1.25	22½	15⅜	17⅞	12⅝
9¼	5½	700	7¼	7⅛	7⅛	Indiana Pipe Line	300,000	$10	20cSA	5-15-36	.35	6⅛	3⅝	6⅞	3⅝
39⅝	33½	4,000	36	35¾	35⅞	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	9,900	12¼	11½	12	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	11⅜	4⅜	5	2⅛
15	7⅜	5,300	14⅜	11⅜	14⅜	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	8⅛	3½	6	3⅜
14¼	9⅞	6,900	13	12½	13	Lone Star Gas	5,382,723	N.P.	20cSA	8-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	1,000	6	5⅞	5⅞	Mountain Producers	1,682,182	$10	30cSA	7-1-36	.90	5¾	4⅛	5½	4
23	17⅝	2,700	19	18⅝	19	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-36	1.25	20	11¾	18⅛	13⅛
15¾	9¼	800	11¾	11⅜	11⅜	National Transit	509,000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	1,000	3⅛	3	3	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	100	3¼	3¼	3¼	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
15¾	9¼	100	4⅞	4⅞	4⅞	New York Transit	100,000	$5	15cSA	4-15-36	.30	4⅞	3	4¾	3
9¼	4⅞	900	7⅛	7	7	Northern Pipe Line	120,000	$10	15cSA	7-1-36	.50	8	5¼	7	4⅝
6⅝	3¼	22,500	5⅝	5¼	5⅜	Pantepec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	10,800	17¼	16¾	17¼	Root Petroleum Co.	336,045	$1	25c	8-1-36	....	5	1½	..	..
4¾	1⅞	2,300	3½	3⅛	3¼	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
10	7	200	7⅜	7¼	7¼	Salt Creek Producers	1,496,859	$10	40cSA	6-30-36	1.20	7½	5½	7⅞	5½
40½	32½	1,200	39¾	39	39	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	34½	21⅝	26½	17½
7⅞	3¼	300	4½	4¼	4¼	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5	3⅞	5½	3½
60	54	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$10 spl.	7-1-36	5.00	56	44¼	47	41
23¾	17⅛	1,800	19	18¾	19	Standard Oil of Kentucky	2,604,790	$10	25cQ	6-15-36	1.25	24	18	18¾	14⅝
14⅝	11	1,100	13	13	13	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
36¼	21¾	5,700	34½	29¼	33¾	Standard Oil of Ohio	753,740	$25	25c	7-15-36	....	23¾	11½	28½	12¼
5	2⅝	18,400	4⅛	3⅞	4	Sunray Oil	1,610,810	$1	....	4-15-31	....	2⅞	⅞	2	11/16
9¾	5⅞	2,100	6¼	5⅞	6	Texon Oil & Land	336,028	N.P.	15cQ	6-30-36	.60	6⅞	5	11	4¾
7¼	4¾	6,800	5⅞	5¼	5⅜	Texas Gulf Producing Co.	888,082	N.P.	....	12-29-34	....	4¾	2½	7	3⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Truck for Heavy High-Speed Work Announced by FWD

A new 40,000-pound gross capacity tractor truck, designed to meet the requirements for a compact high-speed unit for heavy-duty hauling is announced by the Four Wheel Drive Auto Co., Clintonville, Wis., and Kitchener, Ontario, Canada.

This unit meets the ever-increasing trend in highway regulation which restricts the length and axle weight of tractor and trailer units. This

ability to better comply with the highway regulations is said to be due to the more equal weight-distribution made possible by setting the front axle back 53 inches from the front bumper. The weight-distribution of the tractor is 40 per cent on the front axle and 60 per cent on the rear. The manufacturer states that the new tractor truck with semitrailer is designed to carry a gross of 40,000 pounds distributed 10,000 pounds on the front axle of the tractor, 15,000 pounds on the rear axle of the tractor and 15,000 pounds on the axle of the semi.

Although the truck is constructed particularly for fast, heavy-duty service, beauty is emphasized through the eye-pleasing lines of the skirted teardrop fenders, radiator grille, vee'd windshield and streamline hood and cab.

According to the manufacturer, controlled power, provided by the better distribution of power and load through the use of a center differential and set-back front axle, is the key to the truck's capacity for high-speed hauling.

Bulletins, Booklets and Other Literature for the Trade

Four bulletins offered by Worthington Pump and Machinery Corp., Harrison, N. J., cover Monobloc centrifugal pumps, vertical two-stage compressors, vertical four-cycle diesel engines and stationary feedwater heaters.

Price-Trawick, Inc., Stroud, Okla., has published a bulletin giving complete information on all types of P&T kick-off units, with pictures of installations on both gas-lift and pumping wells. The bulletin gives general as well as technical information.

Pumping and gas-lift production equipment is covered in catalog No. 6, a 70-page booklet offered by Jon R. Long, Manufacturer, Box 414, Fort Worth, Tex.

Among articles in the current number of Link-Belt News, published by the Link-Belt Co., 307 North Michigan Avenue, Chicago, is an interesting one on the importance of clean mud in oil-well drilling.

Two pieces of literature are offered by the Manzel Brothers Co., 309 Babcock Street, Buffalo, N. Y. Catalog 25-B describes model 25 force-feed lubricator, designed especially for the oil fields for lubricating the cylinders of engines, pumps, compressors, etc. Bulletin 60-A describes chemical feeders for injecting chemical into crude-oil lines when treating oil.

"Controlling Boiler-Water Level on Rapidly Fluctuating Loads" is the title of a bulletin obtainable from the Northern Equipment Co., Erie, Pa.

In a 40-page booklet, the American Rolling Mill Co., of Middletown, Ohio, describes the uses of Armco spiral-welded pipe in the oil and gas industry. It is profusely illustrated, showing actual installations under practically all types of conditions. Charts and tables show various wall thicknesses, gauges and working pressures, besides data on flanges, fittings and couplings.

The current number of the Bridgeport Bulletin, published by the Bridgeport Machine Co., Wichita, Kans., contains an editorial deploring efforts to "create a system that enshrines a government bookkeeper and belittles business enterprise."

"Among the most recent applications of improved Bakelite heat-hardenable varnishes is the coating of tanks, tankcars and oil tankers, where the resistance to strong chemicals and corrosions is of major importance," says the current number of Bakelite Review, published by the Bakelite Corp., 43 East Ohio Street, Chicago.

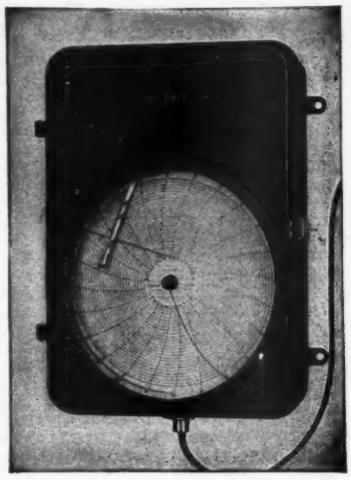
Men Widely Known in the Equipment Field

E. W. STUART

E. W. (Buster) Stuart is now a member of the Byron Jackson sales department and will cover the Corpus Christi and adjacent South Texas areas upon his return from a visit to the main BJ plant in Los Angeles. Mr. Stuart is well known throughout the Gulf Coast territory, having previously represented the Nowery J. Smith Supply Co. and Bettis Sales Co.

Bristol Thermometer Records Temperatures in Pipe Lines

The Bristol Co. offers a new recording thermometer for accurately measuring the temperature of natural and manufactured gas in pipe lines. This



model 140-M fully compensated Class 1 recording thermometer is equipped with a quick-responding extension bulb and a compensating device, which makes it possible to use the instrument outdoors the year round under all conditions of atmospheric temperature change.

The temperature-sensitive portion of the bulb is housed in an aluminum (high thermal conductivity) tube, equipped with radiation discs, which greatly increase the exposed area. The disc-shaped aluminum bulb makes the thermometer highly sensitive to every temperature change and is so designed that it is unaffected by temperature conditions outside the pipe line.

Multibreaker Load Center

As a substitute for the conventional 115/230 volt a-c. entrance and branch circuit protective equipment, a small multibreaker load center is simultaneously announced by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and the Square D Co., Detroit, Mich. The multibreaker load center, hinge-mounted in a cabinet, consists of one or more small but highly effective automatic circuit-breakers grouped in a sealed moulded housing and each capable of interrupting 5,000 amperes at 115 volts a-c. Approved as service equipment complete with the cabinet, the load centers are provided with solid mains up to 70 amp. and for 2 wire 115 volt or 3 wire 115/230 volts a-c. solid neutral service.

Bovaird Moves Office

The Bovaird Supply Co. has moved its Kansas district office from the store in Wichita Heights to the Union National Bank Building in Wichita. C. A. Black, district manager for Kansas, will have his headquarters there. In the office also will be D. M. (Red) Bradley, sales representative, and James R. Kennedy, office clerk. Bovaird has maintained a store in Wichita Heights since the opening of the Valley Center pool in 1929, and has been established in Kansas since 1903. The company now has six stores in Kansas: Wichita Heights, Chase, McPherson, Russell, Hutchinson and Independence.

Accurate Circulation-Hole Is Insured by Special Device

In boring drill-collars by regular methods allowance has to be made for deflection due to gravity. To make the boring of accurate circulation-holes certain and automatic, the National Supply Co. has built special machines which bore simultaneously from both ends and revolve the drills and drill-collar in opposite directions. This imparts a natural inclination for the drills to seek and follow the true geometric axis of the collar and results in circulation holes more accurate and uniform.

The description "true-center bore" has been applied to Ideal rotary drill-collars because circulation-holes are centered on the true axis of the collar. This results in uniform wall thickness which gives increased strength and balance in rotation at high speeds. Circulation is unhindered and there is a minimum of opportunity for abrasion from sand in the fluid.

Ideal drill-collars are forged from selected alloy and carbon steels and are normalized in one full length heat following the forging operation. Also they are available with heat-treated ends. quenched and drawn for 4 feet on each end after normalizing. In addition they may be furnished fully heat-treated, normalized, quenched and drawn in three separate full-length heats. Normalizing removes forging strains and heat treatment improves the physical properties of the steel, adding hardness, toughness, and strength. National regular shop inspection requires that a 10-foot test bar only one-eighth inch larger than the nominal bore pass freely through every collar.

Manages Continental Can Sales

F. Gladden Searle has been appointed general sales manager of the Continental Can Co., Inc., New York, succeeding his brother, the late Thaddeus G. Searle. He has been with the organization since 1919 as a representative district sales manager, and later as assistant manager of sales.

Here and There With Men Who Manufacture Equipment

Carl F. Woods and George F. Felker, president and vice president respectively, for the past 12 years of the Crosby Steam Gage & Valve Co., have purchased the entire common stock of the company, which insures continuation of the present management.

The Lincoln Electric Co., Cleveland, Ohio, has appointed the Industrial Supply Co. as its distributor in Salt Lake City, Utah. The latter company will maintain a supply of Lincoln products including the "Shield Arc" welder, "Fleetweld" and other Lincoln electrodes and arc-welding accessories.

The Security Engineering Co., manufacturer of the Sievers reamer, has appointed the Carson Machine & Supply Co. as its exclusive distributors for Oklahoma and Kansas.

The Laclede Christy Clay Products Co., St. Louis, Mo., has appointed Armin O. Schleiffarth manager of its flat suspended-arch and supported-wall division.

General Refractories Co., Philadelphia, Pa., has removed its general offices into new quarters in the Real Estate Trust Building at Broad and Chestnut Streets, that city.

The Pittsburgh Equitable Meter Co., Pittsburgh, Pa., has appointed F. N. Dillman as sales engineer, working out of the Tulsa office.

The Kennedy Valve Manufacturing Co. of Elmira, N. Y., has appointed Leonard E. Shaffer Pacific Coast manager. Mr. Shaffer will be in charge of the Kennedy branch at 448-450 Tenth Street, San Francisco, and will continue to maintain his Los Angeles office at 1340 East Sixth Street.

William H. Phillips, recently with Harry Pratt Co. of Chicago, has joined the Worthington Pump & Machinery Corp. as power plant specialist, with headquarters in Worthington's Chicago office.

James W. Gillespie has been appointed to represent the Flexible Steel Lacing Co. in the Southwest, with an office in Dallas, Tex. He succeeds the late W. Ernest Oldfield.

The General Machine & Tool Co., Wichita, Kans., has opened a branch store in Haven, Kans., in charge of W. E. Lonsbury, and will carry a complete line of its oil well supplies.

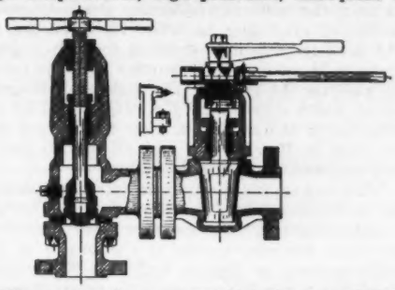
L. L. Caskey has been appointed district sales manager for Republic Steel Corp. in the Philadelphia, Pa., territory. J. B. DeWolfe, whom Mr. Caskey succeeds, has been transferred to the general offices in Cleveland.

TIRES SHOW LITTLE WEAR

A tank-trailer purchased recently by H. B. O'Hair, Paris, Ill., hauls 3,500 gallons of gasoline with a 1½-ton tractor-truck, thus saving its owner $8 a day over previous forms of transportation. Notwithstanding its great capacity, the tires show almost no wear after 15,000 miles. The unit is so well balanced that the tractor-truck feels no pull. This Fruehauf trailer runs loaded every day in the week, servicing five different towns surrounding Paris.

Positive Mechanical Seating Is Feature of New Plug Valve

Homestead Valve Manufacturing Co., Coraopolis, Pa., has put on the market a valve incorporating positive mechanical seating and unseating. This two-handle lift-type plug valve has been designed to overcome operating obstacles encountered with high temperatures, high pressures, infrequent operations, corrusion, etc., met in refineries, oil fields, chemical plants, power plants, etc.

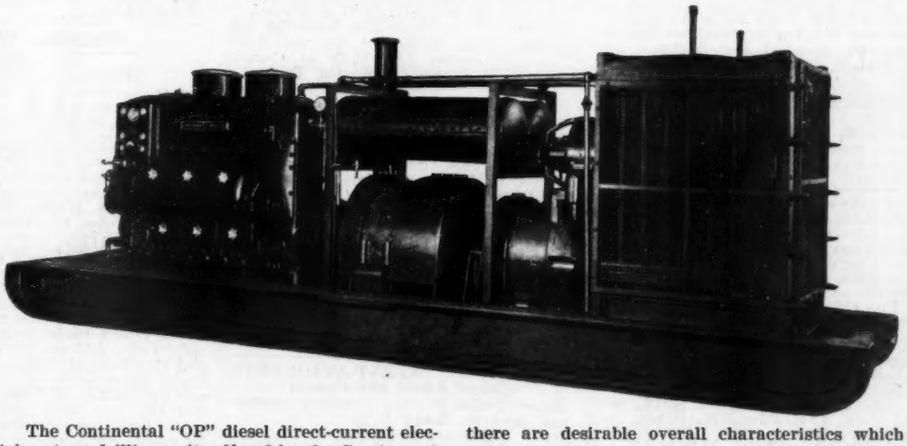


A mechanical leverage lifts the plug vertically from its seat sufficiently to break the friction between plug and body and allows for the free rotation of the plug. By the same process the plug is mechanically reseated. To operate this valve from a closed position, the plug first is raised only slightly from its seat by means of a handle fitted and fastened into the lifting mechanism, to which the plug is direct-connected. By turning the handle counter-clockwise, a positive upward movement to a predetermined point is produced. In this position free rotary movement of the plug is assured. The plug is then turned 90 degrees into position by its own handle. Reseating is accomplished by turning the lifting feature clockwise. The body of the valve is streamlined.

A. F. Rucks Made General Manager

The C. J. Tagliabue Manufacturing Co., Brooklyn, N. Y., manufacturer of indicating, recording and controlling instruments, promoted A. F. Rucks to general manager. Mr. Rucks has been with Tagliabue 23 years. The company also announces appointment of W. C. Bennett as general sales manager in charge of the eastern territories, and E. D. Wacker as general sales manager in charge of the western.

CONTINENTAL DRILLING UNIT RESULT OF RESEARCH



The Continental "OP" diesel direct-current electric rotary drilling unit, offered by the Continental Supply Co., Dallas, Tex., is reported to be the result of careful research, study and experimentation.

The diesel engine rotary rig, regardless of type of engine, type of transmission or first or operating cost, must be able to handle any drilling, pulling or fishing job with necessary control of the drawworks and must have adequate power for hoisting and driving the slush pumps for the areas in which it is to be used and consistent with the speed of drilling required.

In addition to these necessary characteristics, there are desirable overall characteristics which must be taken into account in the selection of equipment.

These desirable overall characteristics may be enumerated as follows: (1) Maximum assurance of reliability under the hard duty imposed. (2) Most effective control of applied power. (3) Maximum economy of rigging up. (4) Greatest possible portability consistent with required performance. High operating economy. All these characteristics—those designated as necessary and those regarded as simply desirable—are possessed by the "OP" unit, according to the company.

Turner Valley Gas Wastage

BLACK DIAMOND, Alberta, July 27.—At a meeting here recently C. C. Ross, minister of lands and mines for Alberta, stated measures are being considered by the provincial government to reduce the tremendous gas wastage in Turner Valley in the interests of gas consumers.

"The government has not in the past stressed the need of conserving the gas for pipe line use, but only the need of conserving the only power capable of producing naphtha. However, as the field pressure has now declined to such a great extent, it is advisable to examine into the potential reserves of gas for the Calgary-Lethbridge system, which supplies gas for Calgary and all the towns south of Lethbridge, over to Macleod and back east to Bow Island, and all of this gas is being supplied from Turner Valley.

"This gas system requires an input at times as high as 60,000,000 feet per day, and to force gas through these long lines requires a very considerable input pressure which, at the intake of the scrubbing plant at Turner Valley, is 300 pounds. In addition to the 300 pounds is the pressure necessary to force the gas through the absorption plant and also through the gathering lines, and as gas must be drawn from wells farther afield and through longer lines, this pressure will be greater. Several of the wells in the lower pressure area and near the plant have been closed in for a long period in an endeavor to maintain their pressure to take care of peak loads, but the pressures in the older part of the field have declined to where larger portions of the field will provide very little gas for the pipe line.

"At the present time, three-quarters of the wells in the whole Turner Valley are operated at a back pressure of 500 pounds or less with 43 per cent operated at 350 pounds or under 300 pounds. An example of the extent of this decline is shown by one area in the center of the field in which there are 16 wells. In 1932 under conservation the wells were operated at an average back pressure of 522 pounds and produced at the rate of over 99,000,000 feet per day. In April last at an average back pressure of 335 pounds they produced at the rate of 18,500,000 feet per day. In 1932 they produced one-third more than the peak demand of the gas line, whereas today, at the absolute minimum pressure, they are producing less than one-third of the requirements and at the present rate of decline, by this fall only a very small amount of gas could be obtained from these wells for use in the system.

"The example just given will illustrate the fact that the older portion of the field is practically at an end as the gas supply of the Calgary-Lethbridge system unless compressors are installed which will greatly increase the cost of gas.

"It is true there are at the north and south ends of the field considerably higher pressures prevailing, but tests being carried out at present show these pressures have declined during the past year at the rate of 24 per cent per annum, which indicates that at the present rate of decline Turner Valley will not be able to supply the system much longer without the aid of compressors.

"In an effort to increase the reserves of gas against the failure of Turner Valley, gas has been transported to the Bow Island field and repressuring carried on. This, however, is a slow and expensive process, and although begun in August, 1930, at the end of March last only about 9,500,000,000 feet had been stored. This, with the addition of the small Foremost field, is the only reserve at present established and is insignificant in comparison with the requirements."

CLASSIFIED ADVERTISING

Leases—Production

I OWN 700 acre oil and gas lease adjoining big block of Humble Oil and Refining Co. in Atascosa County, Texas. Will sell all or part. L. G. Stovall, 1040 Fulton Ave., San Antonio, Texas.

¼ int. 200 a. proven Kentucky lease & well to be drilled 750' Jet sand. Sweet oil 40 grav. Geology very best. $1,500. F. M. Pierson, P. O. Drawer 748, Terre Haute, Ind.

WILL SELL all or part of 20,000 acres of oil and gas leases in south Texas. Large or small tracts. Advise your needs. H. H. White, Box 674, San Antonio, Texas.

FOR SALE—192.65 acres deeded land with full mineral rights unleased in Unit 8 four miles from discovery well Baker-Glendive field in Montana. Will sell all or part. Write M. H. Derby, Bowman, N. D.

BLOCK of Leases on sure side of big oil structure. Drill near. Depth seven to eight hundred feet. J. D. Irwin, Mintonville, Kentucky.

294 ACRES, 8 Big Injun wells, in Sistersville, W. Va. repressuring district. completely equipped, 8 steel rigs, 7 good gas engines, $16,000 equipment on lease, price one half equipment cost, ideal for repressuring with gas. C. L. M. OIL CO., Box 827, Parkersburg, W. Va.

LANDS, Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

LEASES, good West Va. structure, seven producing sands, near new seismograph locations, deep sand tests of majors. 20,000 acres. Box 827, Parkersburg, West Virginia.

SELL or trade 640-acre 10-year lease on Edwards Plateau, West Tex. Rental paid till Feb. Address Box H-384, The Oil and Gas Journal, Tulsa, Okla.

I own 3,000 acres free in N. Pittsburgh & Atoka Cos. 40 to 1,000 A. tracts, no trades. Cash sale, lease or royalty, $5 to $25 per A. Townsite on 2 R.RS. near production. J. E. Cavanagh, Baker, Ore.

ILLINOIS BASIN ACREAGE
Majors now seismographing entire area. Expect deep tests. We have prime long-time leases, (10 yr. low rental) throughout entire area. $2.00 per acre. Maretta Oil Company, Inc., Harrisburgh, Illinois.

SHELBY COUNTY at last has a producing well. Several tests now going down. This County has been worked out and approved by best geologists. Have 1,000 acres on structure for drilling contract. Small bonus. C. A. Parker, Box 451, Center, Texas.

920 acres land, timber, mineral rights, Johnson fourd geological area, $6 acre. D. Cooper, Hamilton, Ala.

Leases—Production

FOR LEASE—LOUISIANA LANDS
80 acres—4 miles east of Weeks Island, $10 per acre. 171 acres—section 104—Houma, $5 per acre. 538 acres—3½ miles west of Franklin, $10 per acre. LEO FELLMAN & CO., New Orleans, La.

FOR SALE

One lease covering 2,000 acres well located near well now being drilled in Bowie County, Texas.

ELMO WALKER
Little Rock, Arkansas

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

Newly discovered undrilled structure adjoining large gas wells and nearby oil fields, has been checked, mapped and is strongly approved and recommended for drilling by two competent geologists. (Names on request). Will give one-half interest in our 3,000-acre lease for sufficient money to drill a test well 2,400 feet. References any bank in Central Texas. R. R. Stolley, Austin, Texas.

RECEIVER'S SALE—Entire structure consisting of 2,400 acres, more or less, with all equipment, Stoney Butte, San Juan County, N. M. Government reported 42 bbls. first 11 hours, 30 gravity at 800 ft. For further information write R. P. Ketner, Receiver, Gallup, N. M.

For Sale—Maps

Oilfield and County Ownership Maps. New price list on request. Send $1.00 for map of Texas and eastern New Mexico.
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Fair Bldg. Fort Worth, Texas

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GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

HAVE 160 acres, or about 5 million yds. Placer ground. Tests 73c per yd. Can put in operation 1,200 yds. per day for $6,000.00. Write W. L. Andrews, 406 16th St. Denver, Colorado.

WANTED—Financial assistance to drill well on 1,000 acres, on structure. Young County, Texas. Strictly cost basis, references furnished. P. O. Box 1903, Fort Worth.

PARTNER WANTED to finance drilling 500 foot lime and sand oil acreage. O. W. Gray, Cross Plains, Texas.

Natural Gas Wanted

WE ARE in the market for a minimum of twenty-five million feet of natural gas per day. Desire large reserve to insure this volume. Give price per thousand feet and full particulars. Address Box H-373, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

OIL FIELD
SPECIALTY SALESMAN
wants specialty for all or part of Texas.
Address P. O. Box 421,
Houston, Texas.

EXPERIENCED accountant, experience in income tax matters and estate, desires position with individual or estate. 40 years of age, married, now employed. Address Box H-361, The Oil and Gas Journal, Tulsa, Oklahoma.

EXPERIENCED OIL FIELD
SALESMAN
Familiar with major companies and contractors throughout Oklahoma, Texas, Louisiana and New Mexico desires permanent connection and good quality line. Clean repeat business and like introductory work. Address Box H-383, The Oil and Gas Journal, Tulsa, Okla.

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For the past eight years in charge of a complete refinery desires connection. 20 years experience in construction and operation, skimming, cracking and lubricating processes, college graduate, married, best references, available immediately. Address Box H-382, The Oil and Gas Journal, Tulsa, Okla.

University graduate, age 36. Twelve years experience in the land, engineering and geological departments. Best of references as to ability. Address Box H-381, The Oil and Gas Journal, Tulsa, Okla.

Mailing Lists

Nation wide oil industry mailing lists. Write Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Help Wanted

WANTED—Graduate Engineer to develop and maintain standards of efficiency in production and consumption of utilities in large mid-western refinery. Thorough knowledge of refinery practice essential since coordination of processing with fuel production and utilities consumption is definite prerequisite to development of standards. Applicant must have good personality, ability to cooperate with supervisors and sufficient initiative to develop and execute improvements leading to operating economies. Reply giving detailed particulars concerning education and experience, also give telephone number. Address Box H-362, The Oil and Gas Journal, Tulsa, Oklahoma.

SALES ENGINEER
A long established engineering and contracting concern requires a sales engineering representative for its New York office. Representative wanted is one with a successful sales record, who has a wide acquaintance among personnel of petroleum refining companies and who is familiar with the latest petroleum process design. Address Box H-371, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED: Asphalt Chemist experienced in asphalts for road and industrial purposes. Ability to match specifications, run control tests, and conduct moderate research necessary. Experience in emulsions desirable but not essential. Address Box H-375, The Oil and Gas Journal, 415 Lexington Ave., New York, N. Y.

COMPETENT hard rock drillers for portable machines to work in Wisconsin and Illinois. Apply Gray Well Drilling Co., 160 N. LaSalle St., Chicago, Illinois.

WANTED Refinery Superintendent for Cracking Plant. Must be thoroughly experienced. Give details of previous employment. Attractive position for capable man. Address Box H-380, The Oil and Gas Journal, Tulsa, Okla.

Financing

JAMES E. MILLER, 604 W. Seventh St., Tulsa, Okla., will aid in financial marketing problems. Fee basis.

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis. John Morris, Box 5411, Philadelphia, Pa.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

PRESSURE VESSELS, GASOLINE TOWERS

2—Hammerweld pressure vessels 10' diameter x 47' x 53' overall length, 1" Walls, 1⅛" head, bottle neck, 18" flanged opening, tested 300 lbs. Have never been in hot oil service and are in excellent condition.

2—Gasoline Towers, 5' in diameter by approximately 65' high x ⅝" steel, riveted and welded with each rivet weld, specially built for cracking purposes. Complete with cleanout manhole, ladders and walkways.

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3,000 H.P.
DIESEL ELECTRIC PLANT

4—750 H.P. Busch Sulzer Engine direct connected to 500 K.W. G.E. generator, 60 cy. 3 ph. 2,300 V.
1—500 K.W. Westinghouse 60 cy. 550 V. Rotary Converter.
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25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
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SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
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PULL ROD BLOCKS
$40 per thousand
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3—300 Amp. Lincoln Buda engine driven welders. 3—200 and 300 Amp. Electric motor driven welders. Overhauled, fine operating condition. Sell reasonable. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

WRECKING White Star Refinery, Wood River, Ill. complete refinery, Dubbs plant. 41 tanks excellent condition. Barker Goldman Lubin Co., Springfield, Ill.

Armstrong 50-B all-steel tractor drilling machine mounted on steel wheels; Ford AA engine, 40 ft. derrick; little used. Also guy lines, tools, pipe. May rent to responsible party. John Oswell, Aztec, San Juan County, New Mexico.

BARGAINS—Demonstrator Arc Welders. Gasoline and electric drive. 30 days' trial. Easy terms if desired. Write Ken's Exchange, Box OG-761, Troy, Ohio.

FOR SALE—One 150 H.P. A.S.M.E. tubular boiler, used ninety days. Keystone Boiler Works, Wichita, Kansas.

Equipment Wanted

WANTED TO BUY
One 125 K.W. Slow Speed Generator
Address Box 36, Muskogee, Oklahoma

WANTED

1 or more vertical gas engine driven two stage compressors, 75 to 100 H.P. for 250 pounds pressure.

1—16 x 16 Worthington feather valve compressor cylinder complete with heads.

Compressors in all types and sizes.

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Sell in the most active area in the United States — The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

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NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

JOIN ME in the oil business in Texas! Many opportunities. Have bargains in Royalty, production, oil payments, in Texas-Louisiana, 2-3-4 year payouts. Tom Skaggs, Box 53, Midland, Texas.

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Royalties Quoted Dealers
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1,000 BBL. offset Royalty in the prolific Oxford, Kan. area. $275.00 per Royalty acre for immediate acceptance only. Address Box H-372, The Oil and Gas Journal, Tulsa, Oklahoma.

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2—10' x 18' x 2⅝" steel, Vogt Reaction chambers, $750 each on car, Ardmore, Okla.
Gasoline, Run Down and Pressure Tanks.
Pumps, all kinds and sizes, condenser boxes, agitators, pipe stills, everything needed for refinery requirements. Complete line of valves and fittings, Oakite treated and tested.
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PRODUCING OIL ROYALTIES
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HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

IN BAY COUNTY, MICHIGAN
Arrangements being made to drill for oil to and through Dundee lime. Possibilities good. Offer subject to prior sale, 1,000 acres, $3.00 per acre including 40-acre offset with balance checkerboarded.
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GULF-GOLDSMITH ROYALTY under 31 Sections Ector County, Texas. Will sell at highest bid, above cost $3500. 1/640th interest (one royalty acre under each Section). Royalty checks paid by trustee. Address Box H-350, The Oil and Gas Journal, Tulsa, Okla.

Oil Industry Printing

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Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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11-16—Mount Pleasant, Mich., Michigan Oil & Gas Exposition.

September

7-12—Washington, D. C., World Power fuel conference.

7-12—Pittsburgh, Pa., American Chemical Society, semiannual meeting.

9-10—Louisville, Ky., Kentucky Petroleum Marketers Association.

16-17—Cincinnati, Ohio, Ohio Petroleum Marketers Association, fall conference and golf tournament, Netherland-Plaza Hotel.

16-18—Atlantic City, N. J., National Petroleum Association, 34th annual meeting, Hotel Traymore.

Week of 28—Indianapolis, Ind., National Tax Conference.

?—Tulsa or Oklahoma City, American Petroleum Institute, Division of Production, Mid-Continent district.

October

6-9—Richmond, Va., North American Gas Tax Conference.

12-13—Chicago, National Association of Lubricating Grease Manufacturers, Stevens Hotel.

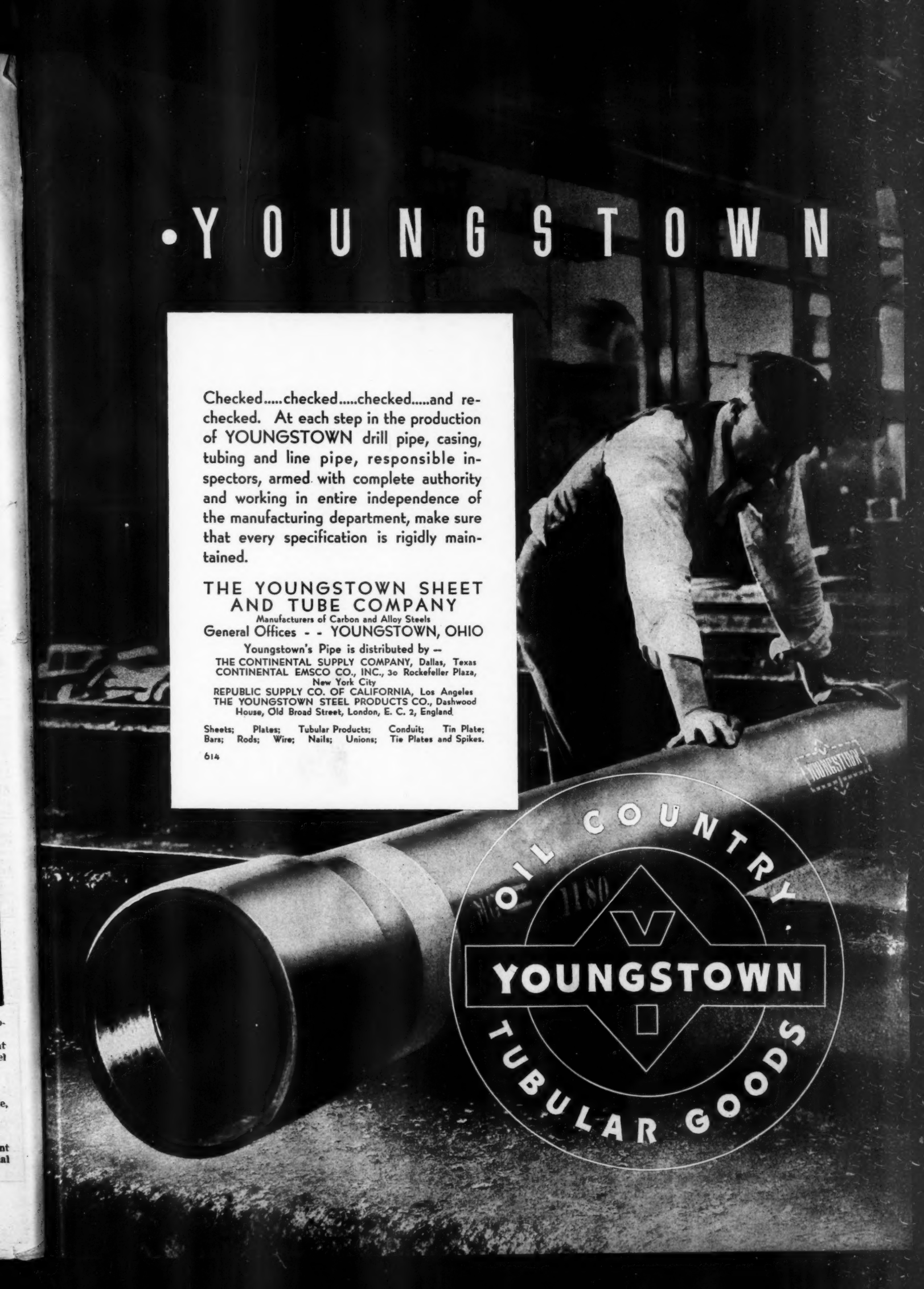
21-22—Indianapolis, Ind., Indiana Independent Petroleum Association, fall convention, Hotel Severin.

November

9-12—Chicago, American Petroleum Institute, 17th annual meeting, Stevens Hotel.

November-December

30-Dec. 1—Oklahoma City, Okla., Independent Petroleum Association, Biltmore Hotel, annual meeting.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